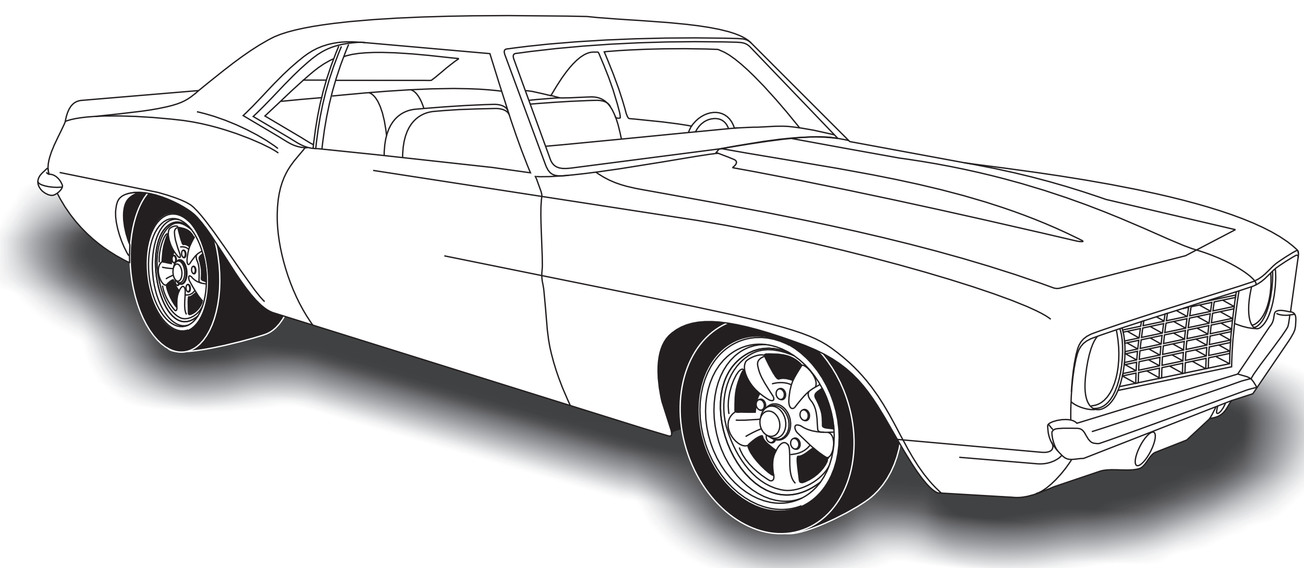
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1969 CAMARO

with FACTORY AIR

564169



18865 GOLL ST. - SAN ANTONIO, TX. - 78266 ph.210-654-7171 - fax 210-654-3113

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PAGES

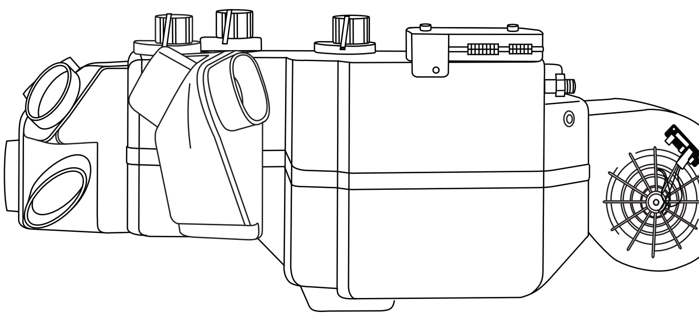
EVAPORATOR KIT PACKING LIST

EVAPORATOR KIT
564169

No.	QTY.	PART No.	DESCRIPTION
1.	1	764169	1969 CAMARO with A/C GEN IV EVAP. SUB CASE
2.	1	784169	1969 CAMARO with A/C GEN IV ACCESSORY KIT

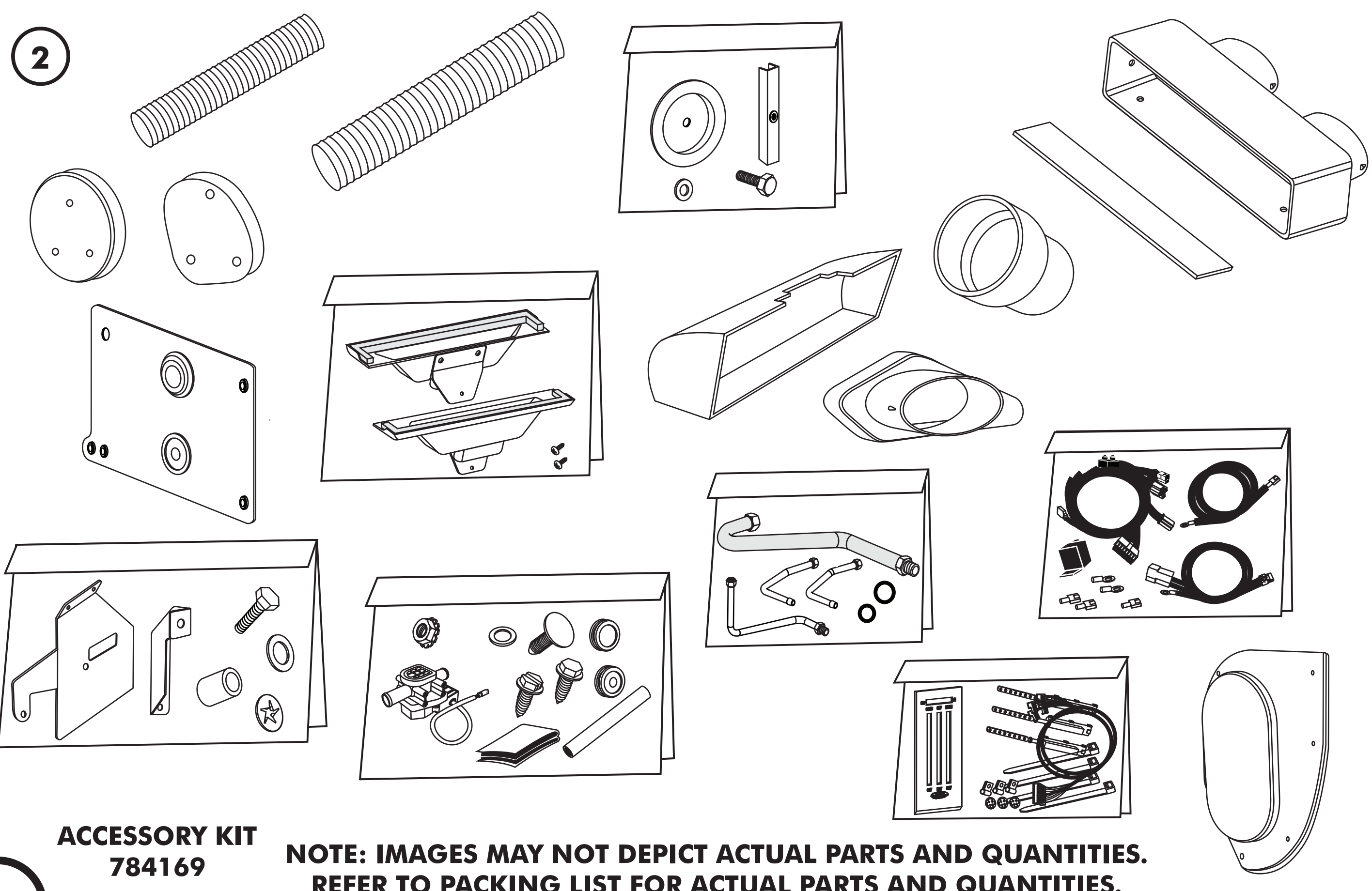
**** BEFORE BEGINNING INSTALLATION, OPEN ALL PACKAGES AND CHECK CONTENTS OF SHIPMENT. PLEASE REPORT ANY SHORTAGES DIRECTLY TO VINTAGE AIR WITHIN 15 DAYS. AFTER 15 DAYS, VINTAGE AIR WILL NOT BE RESPONSIBLE FOR MISSING OR DAMAGED ITEMS.**

1



1969 CAMARO with A/C GEN IV EVAP. SUB CASE 764169

2



ACCESSORY KIT 784169

NOTE: IMAGES MAY NOT DEPICT ACTUAL PARTS AND QUANTITIES. REFER TO PACKING LIST FOR ACTUAL PARTS AND QUANTITIES.

Important Notice—Please Read

For Maximum System Performance, Vintage Air Recommends the Following:

Heater Hose (Not Included With This Kit):

Heater hose may be purchased from Vintage Air (Part# 31800-VUD) or your local parts retailer. Routing and required length will vary based on installer preference.

Bolts Passing Through Cowl and/or Firewall:

To ensure a watertight seal between the passenger compartment and the vehicle exterior, for all bolts passing through the cowl and/or firewall, Vintage Air recommends coating the threads with silicone prior to installation.

Safety Switches:

Your Vintage Air system is equipped with a binary pressure safety switch. A binary switch disengages the compressor clutch in cases of extreme low pressure conditions (Refrigerant Loss) or excessively high head pressure (406 PSI) to prevent compressor damage or hose rupture. A trinary switch combines Hi/Lo pressure protection with an electric fan operation signal at 254 PSI, and should be substituted for use with electric fans. Compressor safety switches are extremely important since an A/C system relies on refrigerant to circulate lubricant.

Service Info:

Attention: The following system components are capped: Compressor, evaporator, condenser & drier. Caps may be under pressure with dry nitrogen. Be careful removing caps. Do not remove caps prior to installation. Removing caps prior to installation will cause components to collect moisture and lead to premature failure and reduced performance.

Evacuate the system for 35-45 minutes with system components (Drier, compressor, evaporator and condenser) at a temperature of at least 85° F. On a cool day, the components can be heated with a heat gun OR by running the engine with the heater on before evacuating. Leak check and charge to specifications.

Vintage Air Systems Are Designed to Operate With R134a Refrigerant Only! Use of Any Other Refrigerants Is a Fire Hazard and Could Damage Either Your Air Conditioning System or Your Vehicle.

Use of Any Other Refrigerants Will Void All Warranties of the Air Conditioning System and Components. Use of the Proper Type and Amount of Refrigerant Is Critical to Proper System Operation. Vintage Air Recommends Our Systems Be Charged By Weight With a Quality Charging Station or Scale.

Refrigerant Capacity for Vintage Air Systems:

(For other systems, consult manufacturer's guidelines)

R134a System

Charge with 1.8 lbs. (1 lb., 12 oz.) of refrigerant.

Lubricant Capacities:

New Vintage Air-supplied Sanden Compressor: No additional oil needed (Compressor is shipped with proper oil charge).

All Other Compressors: Consult manufacturer (Some compressors are shipped dry and will need oil added).

Important Wiring Notice—Please Read

Some Vehicles May Have Had Some or All of Their Radio Interference Capacitors Removed. There Should Be a Capacitor Found At Each of the Following Locations:

1. On the positive terminal of the ignition coil.
2. If there is a generator, on the armature terminal of the generator.
3. If there is a generator, on the battery terminal of the voltage regulator.

Most alternators have a capacitor installed internally to eliminate what is called “whining” as the engine is revved. If whining is heard in the radio, or just to be extra cautious, a radio interference capacitor can be added to the battery terminal of the alternator.

It is also important that the battery lead is in good shape and that the ground leads are not compromised. There should be a heavy ground from the battery to the engine block, and additional grounds to the body and chassis.

If these precautions are not observed, it is possible for voltage spikes to be present on the battery leads. These spikes come from ignition systems, charging systems, and from switching some of the vehicle’s other systems on and off. Modern computer-operated equipment can be sensitive to voltage spikes on the power leads, which can cause unexpected resets, strange behavior, and/or permanent damage.

Vintage Air strives to harden our products against these types of electrical noise, but there is a point where a vehicle’s electrical system can be degraded so much that nothing can help.

Radio interference capacitors should be available at most auto and truck parts suppliers. They typically are cylindrical in shape, a little over an inch long, a little over a half inch in diameter, and they have a single lead coming from one end of the cylinder with a terminal on the end of the wire, as well as a mounting clip which is screwed into a good ground on the vehicle. The specific value of the capacitance is not too significant in comparison to ignition capacitors that are matched with the coil to reduce pitting of the points.

- Care must be taken, when installing the compressor lead, not to short it to ground. The compressor lead must not be connected to a condenser fan or to any other auxiliary device. Shorting to ground or connecting to a condenser fan or any other auxiliary device may damage wiring, the compressor relay, and/or cause a malfunction.

- When installing ground leads on Gen IV systems, the blower control ground and ECU ground must be connected directly to the negative battery post.

- For proper system operation, the heater control valve must be connected to the ECU.

BEFORE STARTING THE INSTALLATION, CHECK THE FUNCTION OF THE VEHICLE (HORN, LIGHTS, ETC.) FOR PROPER OPERATIONS. STUDY THE INSTRUCTIONS, ILLUSTRATIONS & DIAGRAMS.

ENGINE COMPARTMENT

REMOVE THE FOLLOWING:

- ☐ BATTERY AND BATTERY TRAY (RETAIN).
- ☐ DRAIN RADIATOR.
- ☐ EVACUATE THE A/C SYSTEM IF NECESSARY.
- ☐ CONDENSER, LINES AND THE (4) OEM RUBBER WELL NUTS IN CORE SUPPORT (DISCARD).
- ☐ OEM COMPRESSOR AND BRACKET (DISCARD).
- ☐ EVAPORATOR AND BLOWER ASSEMBLY (DISCARD). TO REMOVE THE EVAPORATOR AND BLOWER ASSEMBLY (UNDER HOOD) AND THE AIR DISTRIBUTION SYSTEM (UNDER DASH), THE FACTORY MANUAL INDICATES DOING THE FOLLOWING: **"REMOVE RIGHT LOWER ROCKER MOLDING. REMOVE LOWER FENDER ATTACHING BOLTS. REMOVE SKIRT TO FENDER AND SKIRT TO REINFORCEMENT SCREWS. PULL OUT ON LOWER PORTION OF FENDER, MOVING THE SKIRT AWAY FROM THE FENDER FLANGE AND FIREWALL. BLOCK THE SKIRT WITH A 2" x 4" BLOCK OF WOOD".** TO AVOID DAMAGE TO PAINT AND SHEET METAL AND FOR EASE OF REMOVAL AND REPLACEMENT OF COMPONENTS, VINTAGE AIR SUGGESTS THAT THE RIGHT FENDER BE REMOVED AND INNER PANEL BE LOWERED.
- ☐ OEM HEATER HOSES, A/C HOSES, HARDLINES AND DRIER (DISCARD).
- ☐ REMOVE OEM A/C & HEATER WIRING/VACUUM HARNESS MOLDED GROMMET.
- ☐ INSTALL 1 ½" PLUG IN FIREWALL.

CONDENSER ASSEMBLY & INSTALLATION

- ☐ REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH THE CONDENSER KIT TO INSTALL THE CONDENSER.
- ☐ BINARY SWITCH INSTALLATION (REFER TO CONDENSER INSTRUCTIONS).

COMPRESSOR & BRACKETS

- ☐ REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH THE BRACKET KIT TO INSTALL THE COMPRESSOR BRACKET.

PULLEYS

- ☐ IN MOST INSTANCES, THE BELT LENGTHS WILL REMAIN THE SAME.

PASSENGER COMPARTMENT

NOTE: REMOVAL OF DASHBOARD REQUIRED TO INSTALL THE EVAPORATOR. VINTAGE AIR RECOMMENDS THAT YOU UTILIZE THE FACTORY SERVICE MANUAL WHEN YOU DISASSEMBLE AND REASSEMBLE THE DASHBOARD.

REMOVE THE FOLLOWING:

- ☐ GLOVE BOX DOOR. SEE FIGURE 4.
- ☐ GLOVE BOX SHELL (DISCARD, RETAIN SCREWS). SEE FIGURE 1.
- ☐ RADIO. SEE FIGURE 1 (RETAIN).
- ☐ A/C & HEATER ASSEMBLY AND ALL RELATED DUCTING (DISCARD). RETAIN SCREWS. SEE FIGURES 1 & 2.
- ☐ A/C HEAT OUTLETS (RETAIN). INSTRUMENT PANEL MUST BE REMOVED TO GET TO LEFT OUTLET (SEE FIGURE 3) AND CONTROL PANEL (SEE FIGURE 4).
- ☐ REMOVE THE OEM CONTROL PANEL ASSEMBLY FROM DASH AS SHOWN IN FIGURE 2, BELOW. **REFER TO CONTROL PANEL CONVERSION KIT INSTRUCTIONS FOR INSTALLATION OF CONTROLS.**
- ☐ REMOVE PASSENGER SIDE KICK PANEL FRESH AIR COVER (DISCARD) AND KICK PANEL (RETAIN), REMOVE CABLE (DISCARD) FROM PANEL. SEE FIGURE 2, BELOW.

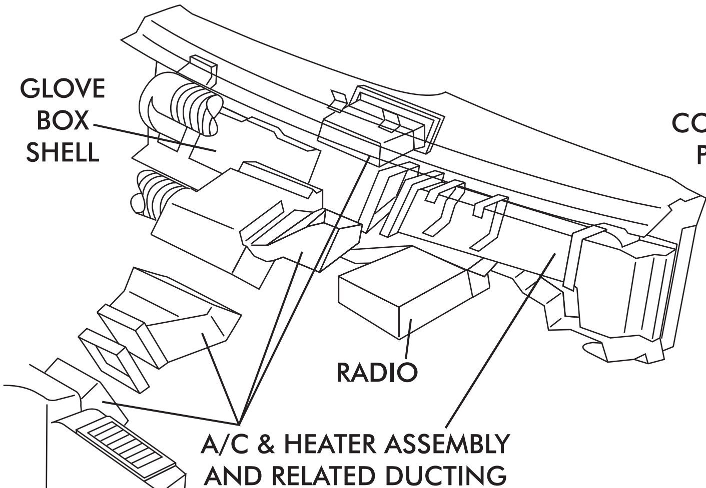


FIGURE 1
VIEW FROM FIREWALL

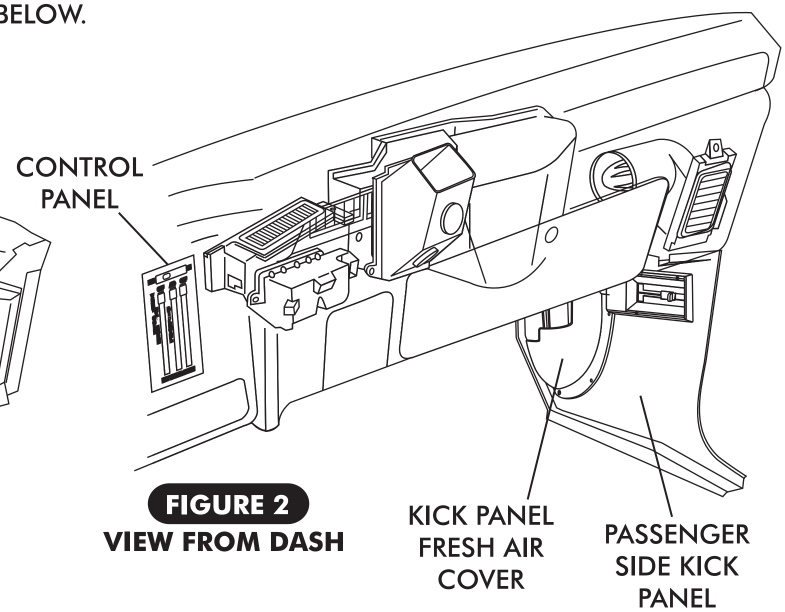


FIGURE 2
VIEW FROM DASH

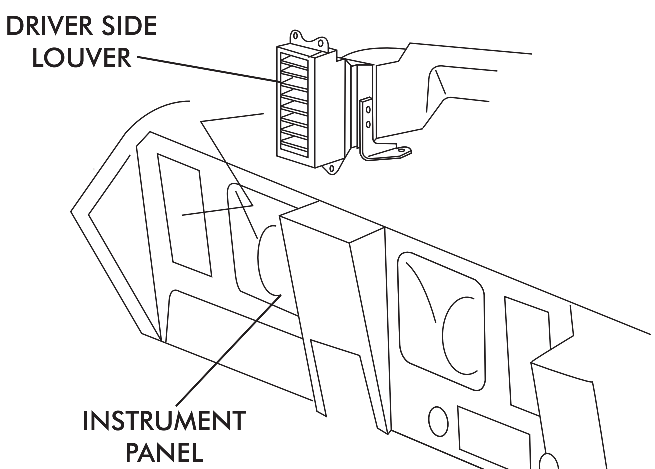


FIGURE 3
VIEW FROM INTERIOR

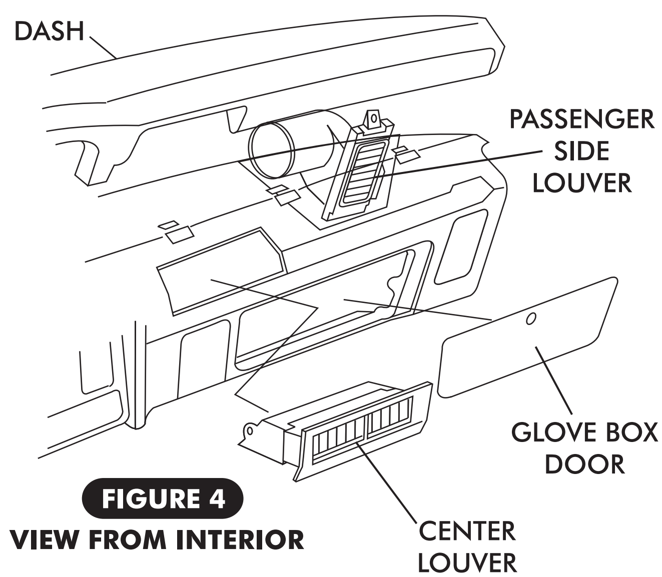


FIGURE 4
VIEW FROM INTERIOR

EVAPORATOR MOUNTING HOLES

- ☐ CUT OUT TEMPLATE PROVIDED ON PAGE 24 AND TAPE TOGETHER AS SHOWN ON TEMPLATE. PLACE THE TEMPLATE UNDER THE DASH ON INNER COWEL BY ALIGNING THE LEFT SIDE OF THE TEMPLATE AGAINST THE SPEAKER BRACKET AS SHOWN. FOLD THE TEMPLATE TO FOLLOW THE CONTOUR OF THE INNER COWL. MAKE SURE THE UPPER LEFT HAND CORNER OF THE TEMPLATE ALIGNS WITH LEFT SIDE OF THE DEFROST OPENING IN DASH AS SHOWN. SEE FIGURE 5 & 5a, BELOW.
- ☐ ONCE TEMPLATE IS ALIGNED CORRECTLY AND TAPED INTO PLACE, MARK MOUNTING HOLES ON INNER COWL. ONCE HOLES ARE MARKED IN THE CORRECT LOCATION, DRILL (2) 3/16" HOLES IN INNER COWL FOR EVAPORATOR FRONT MOUNTING BRACKET. SEE FIGURE 5, BELOW.

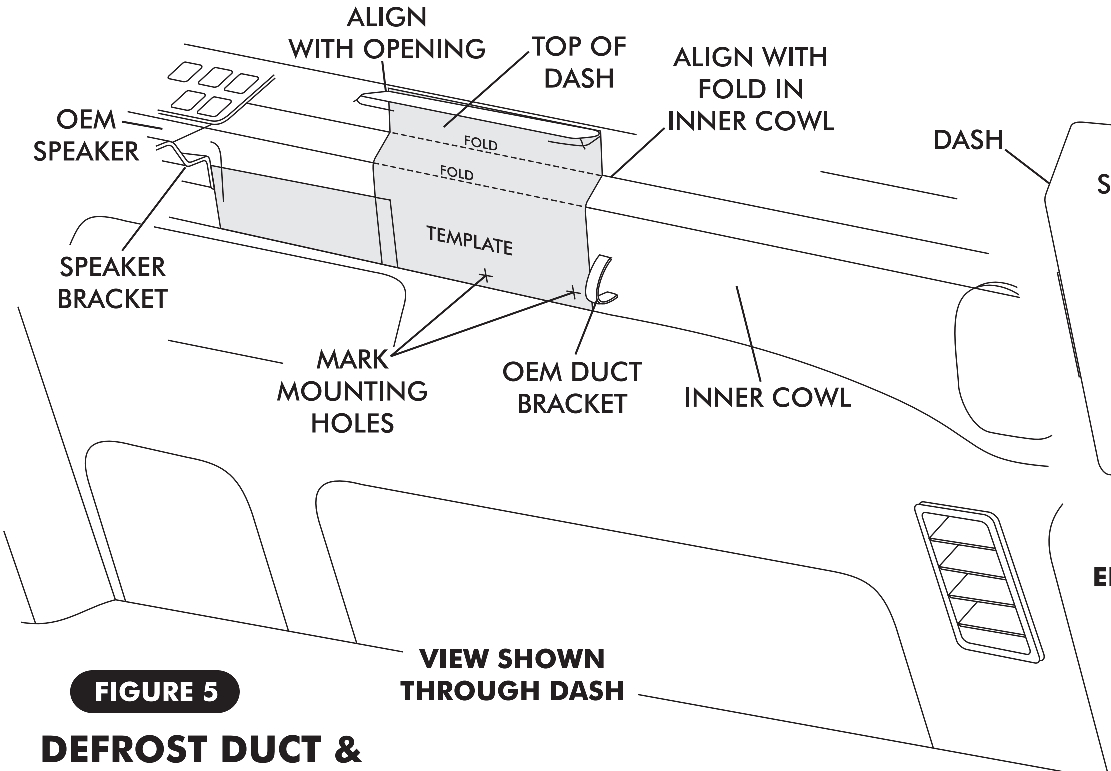


FIGURE 5

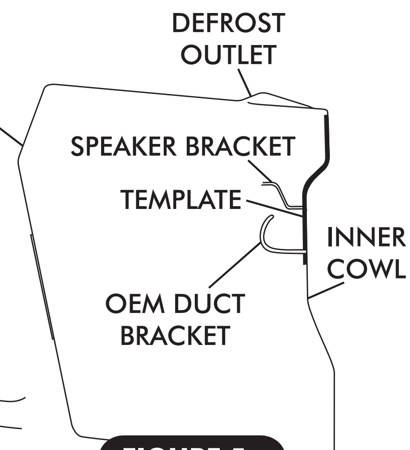


FIGURE 5a

PASSENGER SIDE END VIEW OF DASH

DEFROST DUCT & FRESH AIR COVER INSTALLATION

- ☐ INSTALL DRIVER & PASSENGER SIDE FRESH AIR COVERS, SECURE USING OEM HARDWARE. SEE FIGURE 6, BELOW.
- ☐ INSTALL DEFROST DUCTS UNDER DASH AS SHOWN IN FIGURE 6, BELOW. ALIGN DEFROST DUCT WITH DEFROST OPENING IN DASH. HOLD IN PLACE. USE BRACKET AS TEMPLATE AND DRILL A 7/64" HOLE. SECURE USING A #10 x 1/2" SHEET METAL SCREW.

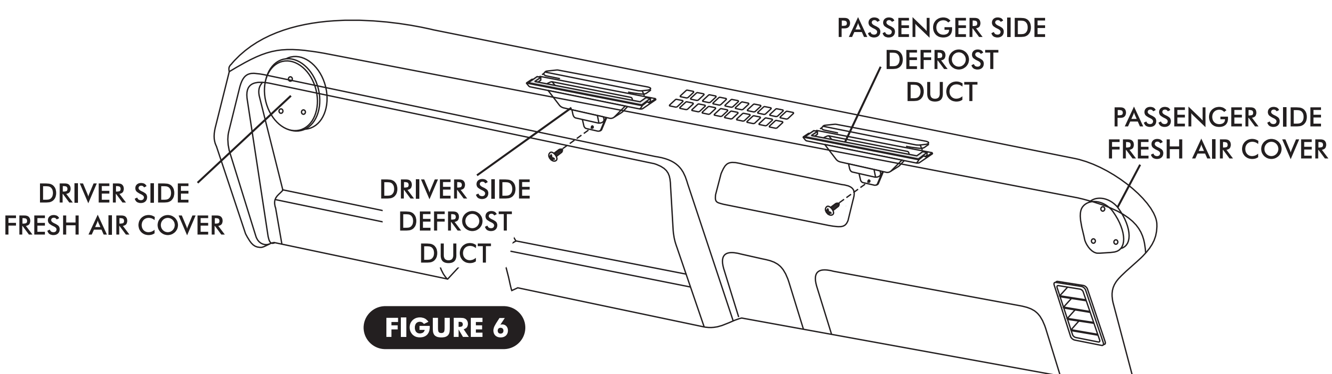


FIGURE 6

HOSE ADAPTER INSTALLATION

- ☐ INSTALL S-CLIPS ON HOSE ADAPTERS AS SHOWN IN FIGURE 7, BELOW.
- ☐ CUT 9" OFF OF THE OEM DRIVER SIDE A/C DUCT ASSEMBLY AS SHOWN IN FIGURE 7, BELOW.
- ☐ INSTALL DRIVER & PASSENGER SIDE HOSE ADAPTERS ON OEM LOUVERS. SEE FIGURE 7, BELOW.
- ☐ REINSTALL LOUVER IN DASH.

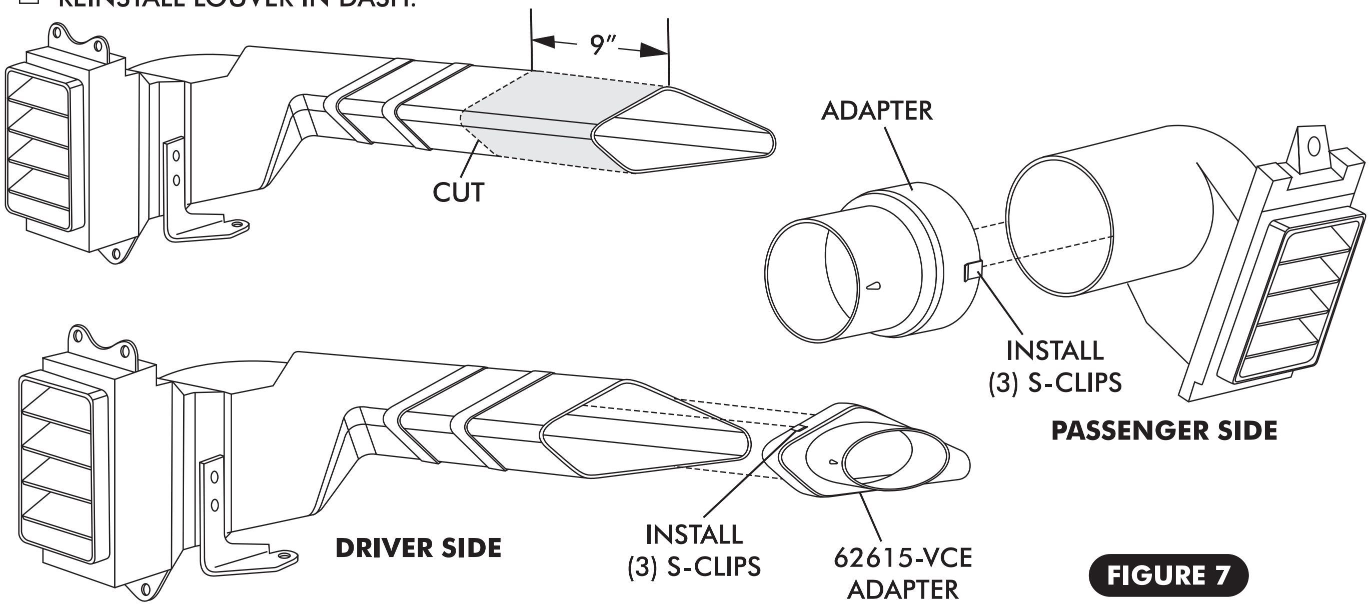


FIGURE 7

FRESH AIR COVER INSTALLATION

- ☐ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FRESH AIR CAP AS SHOWN IN FIGURE 8, BELOW.

- ☐ ATTACH FRESH AIR CAP TO FIREWALL USING A 1/4-20 x 1" BOLT AND WASHER. SEE FIGURE 8, BELOW. **NOTE: FRESH AIR CAP INSTALLS ON ENGINE SIDE OF FIREWALL.**

- ☐ DRILL A 5/8" HOLE IN FIREWALL AS SHOWN IN FIGURE 8, BELOW. INSTALL GROMMET AS SHOWN IN FIGURE 10, PAGE 11.

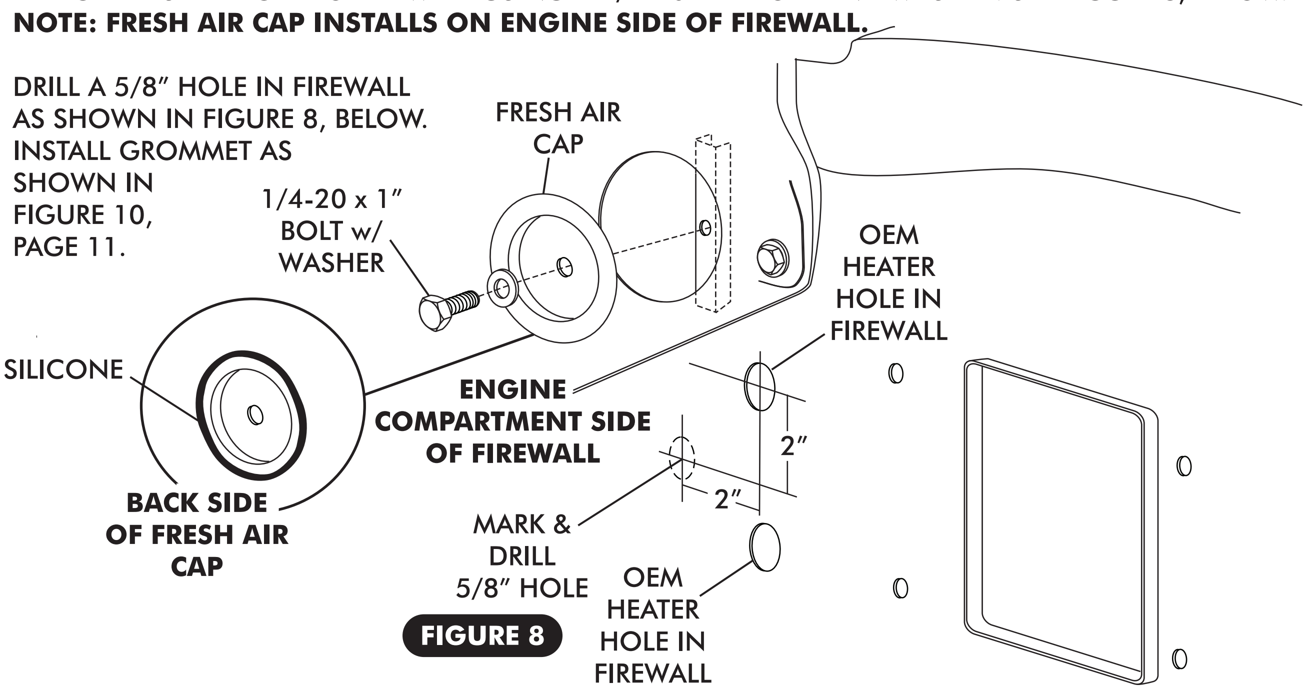


FIGURE 8

KICK PANEL CAP INSTALLATION

☐ CLOSE FRESH AIR DOOR ASSEMBLY IN KICK PANEL AND SEAL DOOR WITH A 1/4" BEAD OF SILICONE AROUND DOOR AS SHOWN IN FIGURE 8a.

☐ INSTALL KICK PANEL CAP USING (5) #10 x 1" PH PAN HEAD SCREWS AS SHOWN IN FIGURE 8b.

☐ USING OEM SCREWS, INSTALL OEM LEVER HOUSING AS SHOWN IN FIGURE 8b.

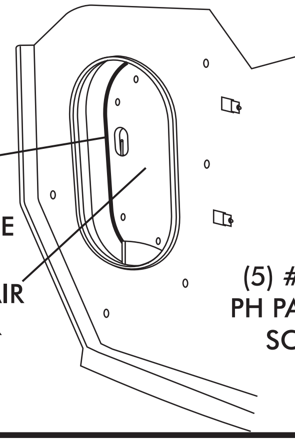


FIGURE 8a

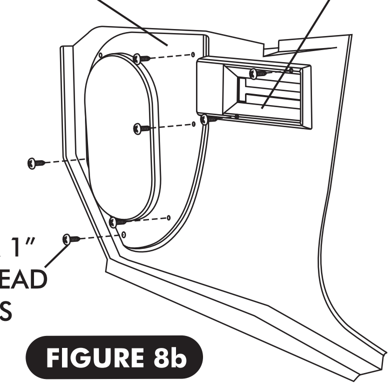


FIGURE 8b

FIREWALL COVER INSTALLATION

☐ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FIREWALL COVER AS SHOWN IN FIGURE 10, PAGE 11.

☐ FROM INSIDE THE CAR, INSTALL THE FIREWALL COVER ON THE FIREWALL. SEE FIGURE 10, PAGE 11. FROM THE ENGINE COMPARTMENT SIDE OF FIREWALL, SECURE FIREWALL COVER TO FIREWALL USING (4) 1/4-20 x 1" HEX BOLTS WITH WASHERS. SEE FIGURE 10, PAGE 11.

EVAPORATOR INSTALLATION

☐ ON A WORKBENCH, INSTALL EVAPORATOR REAR BRACKET AND HARDLINES WITH PROPERLY LUBRICATED O-RINGS. SEE FIGURE 15, PAGE 14, AND FIGURE 21, PAGE 19.

☐ INSTALL FRONT MOUNTING BRACKET ON EVAPORATOR USING (2) 1/4-20 x 1/2" HEX BOLTS AND TIGHTEN AS SHOWN IN FIGURE 9, BELOW.

☐ LIFT EVAPORATOR UNIT UP UNDER THE DASHBOARD. SEE FIGURE 11, PAGE 11. SECURE LOOSELY TO THE FIREWALL FROM THE ENGINE COMPARTMENT SIDE USING A 1/4-20 NUT AND WASHER. SEE FIGURE 11, PAGE 11.

☐ USING (2) #14 x 3/4" SHEET METAL SCREWS, SECURE THE FRONT EVAPORATOR MOUNTING BRACKET TO THE INNER COWL. SEE FIGURE 11, PAGE 11.

☐ VERIFY THAT EVAPORATOR UNIT IS LEVEL AND SQUARE TO THE DASH, THEN TIGHTEN ALL BOLTS. **NOTE: TIGHTEN THE BOLT ON FIREWALL FIRST, THEN THE FRONT MOUNTING BRACKET SCREWS.**

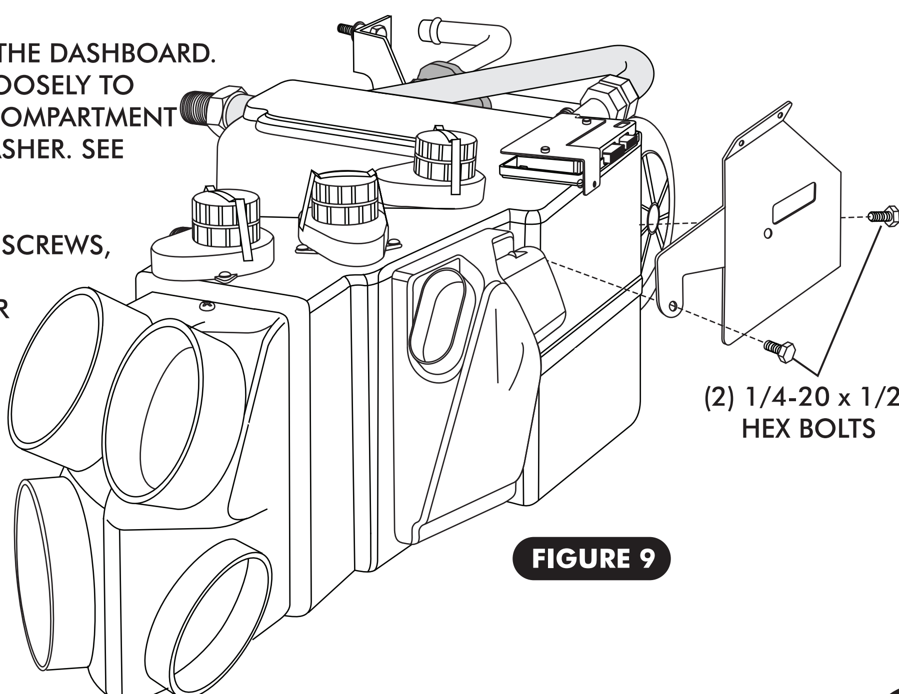


FIGURE 9

FIREWALL COVER INSTALLATION

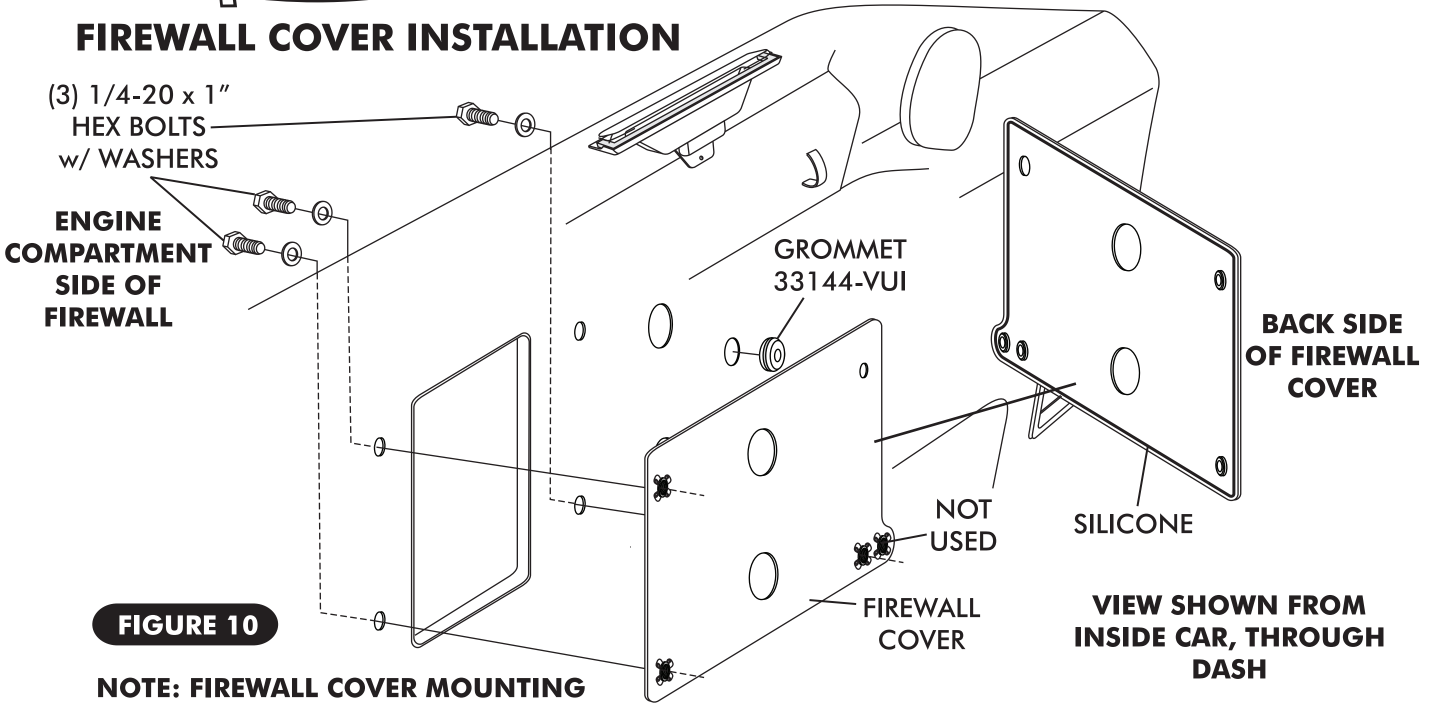


FIGURE 10

VIEW SHOWN FROM INSIDE CAR, THROUGH DASH

NOTE: FIREWALL COVER MOUNTING HOLES MUST BE ENLARGED. ENLARGE EXISTING HOLES IN FIREWALL TO 5/16".

EVAPORATOR INSTALLATION

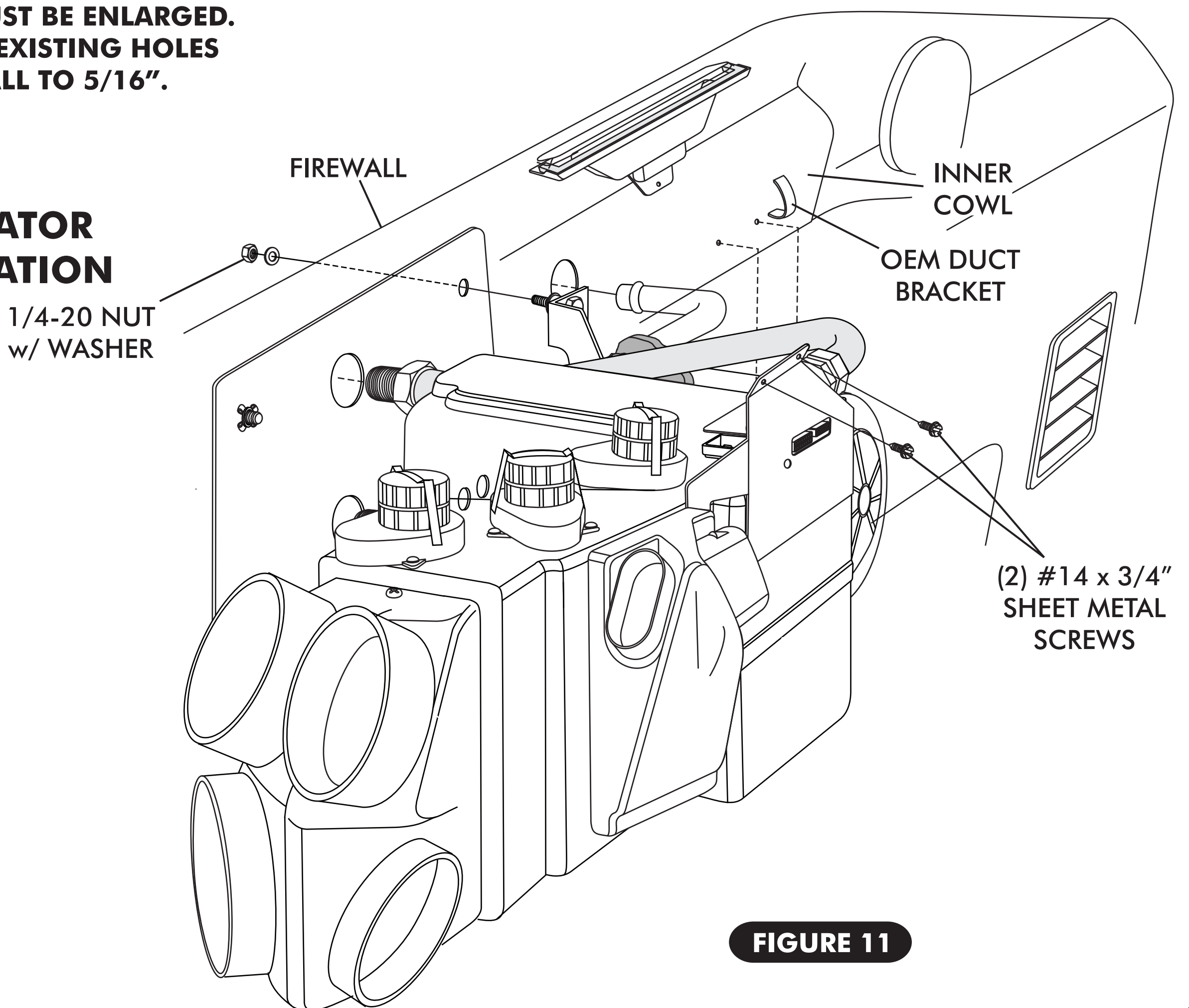


FIGURE 11

CENTER LOUVER INSTALLATION

☐ INSTALL FOAM STRIP ON CENTER LOUVER ASSEMBLY AS SHOWN IN FIGURE 12, BELOW.

☐ INSTALL CENTER LOUVER DUCT HOSE ADAPTER ON CENTER LOUVER ASSEMBLY. SEE FIGURE 12a, BELOW.

☐ USING THE (2) MOUNTING HOLES ON THE BOTTOM SIDE OF THE DUCT HOSE ADAPTER AS A GUIDE, DRILL (2) 1/8" HOLES IN LOUVER ASSEMBLY. SECURE DUCT HOSE ADAPTER TO LOUVER ASSEMBLY USING (2) #8 x 1/2" PH PAN HEAD SCREWS. SEE FIGURE 12b, BELOW.

☐ REINSTALL DASH.

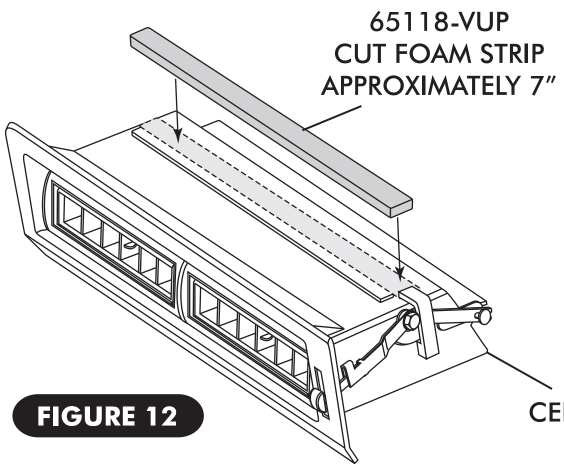


FIGURE 12

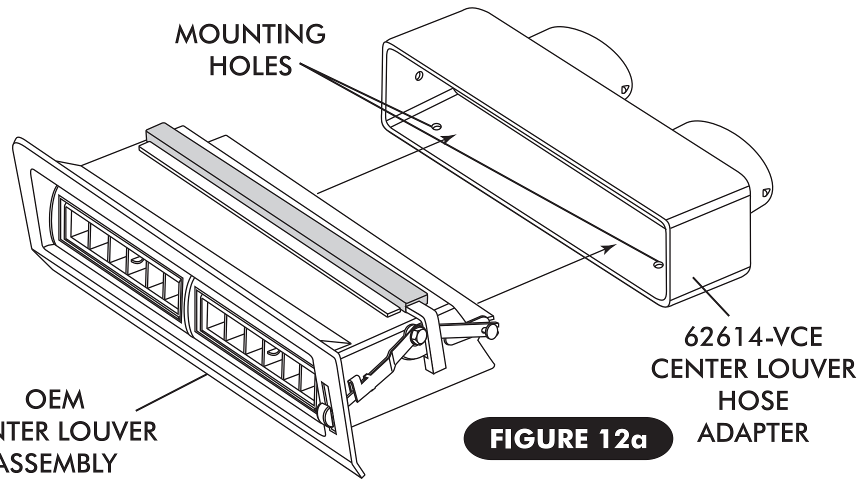


FIGURE 12a

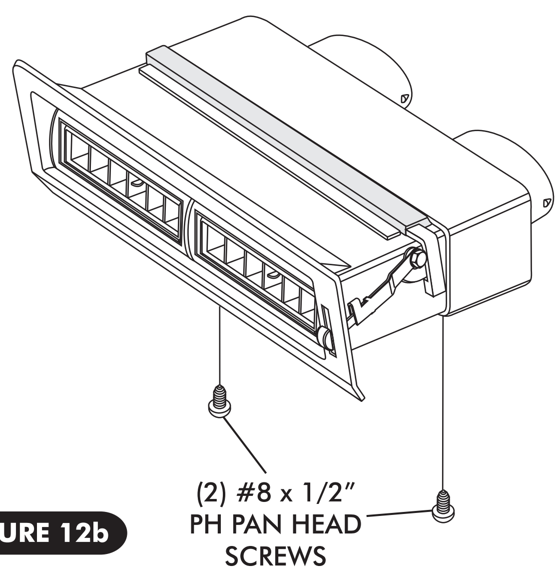


FIGURE 12b

☐ PULL CENTER LOUVER DUCT HOSES THROUGH DASH AND ATTACH TO CENTER LOUVER DUCT HOSE ADAPTER AS SHOWN IN FIGURE 13, PAGE 13.

☐ INSTALL CENTER LOUVER ASSEMBLY IN DASH. USING OEM MOUNTING SCREWS, SECURE LOUVER ASSEMBLY TO DASH. SEE FIGURE 13, PAGE 13.

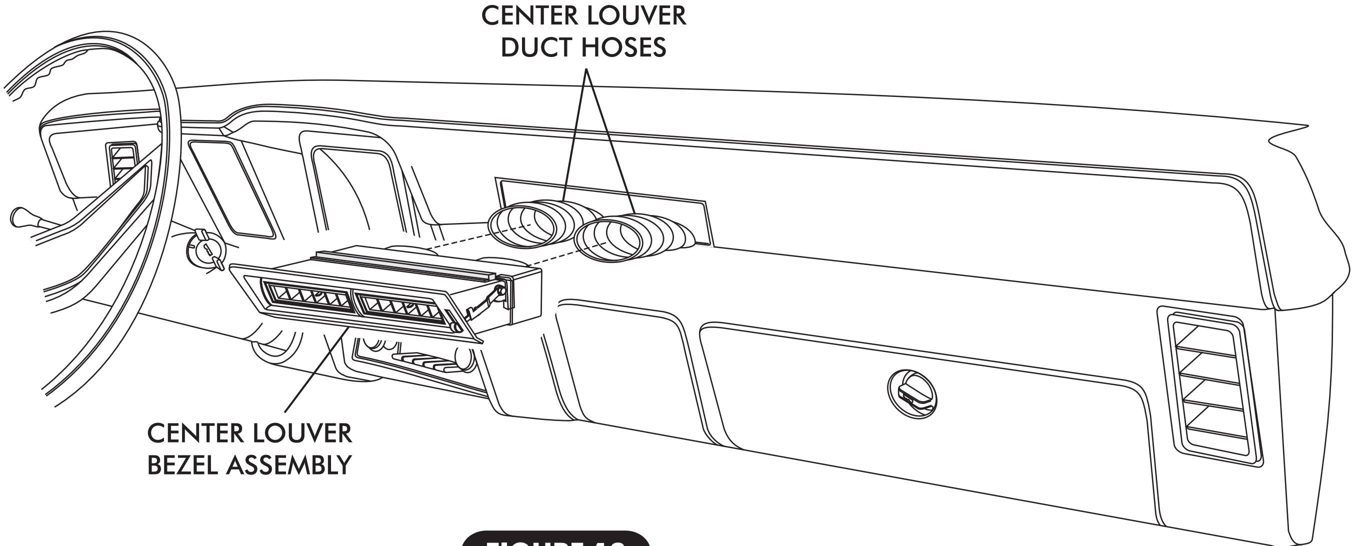
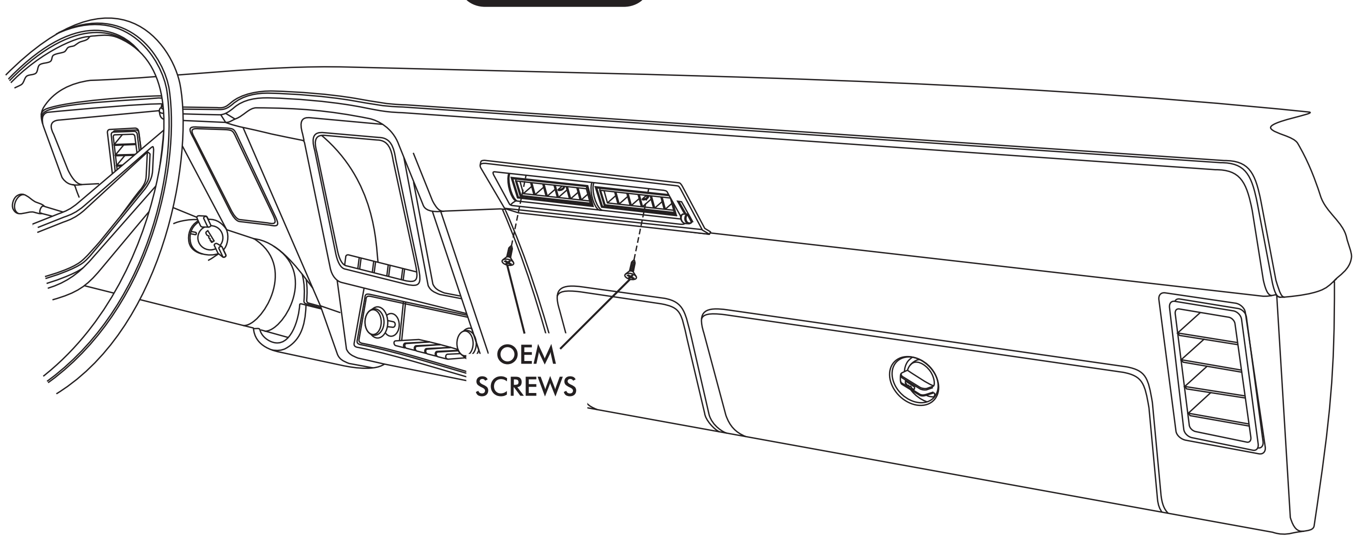


FIGURE 13



DRAIN HOSE INSTALLATION

- ☐ LOCATE EVAPORATOR DRAIN ON BOTTOM OF EVAPORATOR CASE.
- ☐ IN LINE WITH THE DRAIN, LIGHTLY MAKE A MARK ON THE FIREWALL. MEASURE ONE INCH DOWN AND DRILL A 5/8″ HOLE THROUGH THE FIREWALL. SEE FIGURE 14.
- ☐ INSTALL DRAIN HOSE TO BOTTOM OF EVAPORATOR UNIT AND ROUTE THROUGH FIREWALL. SEE FIGURE 14.

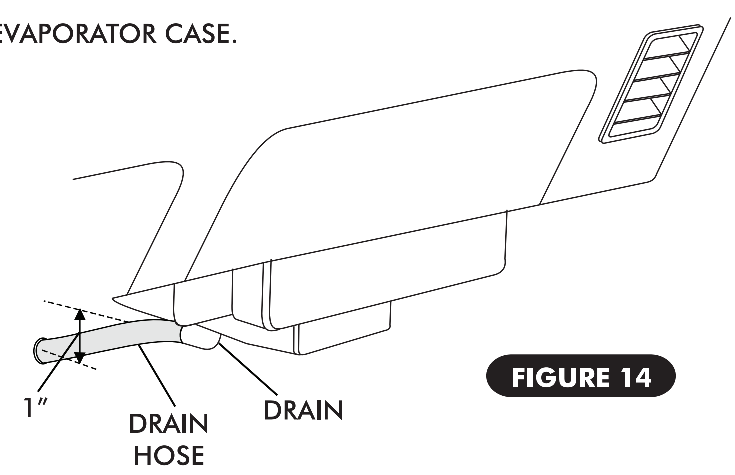


FIGURE 14

LUBRICATING O-RINGS

FOR A PROPER SEAL OF FITTINGS: INSTALL SUPPLIED O-RINGS AS SHOWN AND LUBRICATE WITH SUPPLIED OIL.

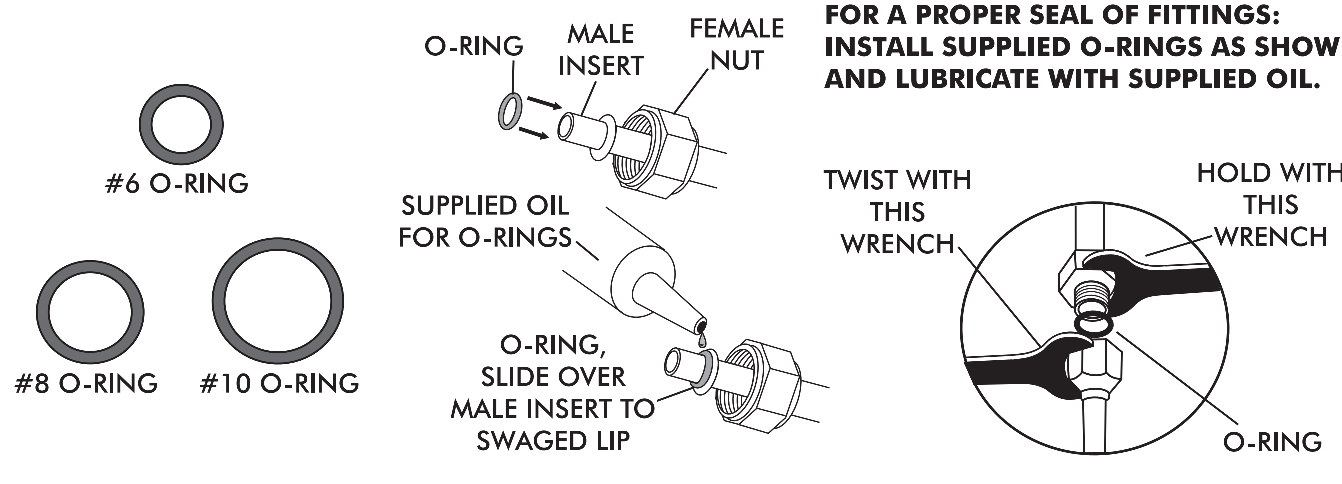


FIGURE 15

STANDARD HOSE KIT

☐ LOCATE THE #8 COMPRSSOR A/C HOSE. LUBRICATE (2) #8 O-RINGS (SEE FIGURE 15, ABOVE) AND CONNECT THE 135° w/ 134A SERVICE PORT FITTING TO THE #8 DISCHARGE PORT ON THE COMPRESSOR. ROUTE THE STRAIGHT MALE FITTING TO THE #8 CONDENSER HARDLINE COMING FROM UNDER THE RADIATOR CORE SUPPORT. SEE FIGURE 17, PAGE 16. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 15, ABOVE.

☐ LOCATE THE #10 COMPRESSOR A/C HOSE. LUBRICATE (2) #10 O-RINGS (SEE FIGURE 15, ABOVE) AND CONNECT THE 135° FITTING TO THE #10 SUCTION PORT ON THE COMPRESSOR, ROUTE THE 45° FEMALE w/ 134a SERVICE PORT FITTING TO THE #10 EVAPORATOR HARDLINE COMING THROUGHT THE FIREWALL. SEE FIGURE 16, PAGE 15. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 15, ABOVE. **NOTE: WRAP THE #10 FITTING CONNECTIONS WITH PRESS TAPE. SEE FIGURE 16a, PAGE 15.**

☐ LOCATE THE #6 EVAP/DRIER HARDLINE AND LUBRICATE (2) #6 O-RINGS (SEE FIGURE 15, ABOVE) AND CONNECT THE HARDLINE TO THE #6 HARDLINE ON FENDER WELL COMING FROM THE DRIER. ATTACH THE OTHER END OF THE HARDLINE WITH LUBRICATED O-RING TO THE #6 EVAPORATOR HARDLINE COMING THROUGH THE FIREWALL. SEE FIGURE 16, PAGE 15. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 15, ABOVE.

☐ USE A #2 ADEL CLAMP TO SECURE THE #6 EVAP/CORE HARDLINE TO THE INNER FENDERWELL AS SHOWN IN FIGURE 17b, PAGE 16. SECURE THE ADEL CLAMP TO THE INNER FENDER USING A 10-32 x 1/2" PH PAN HEAD SCREW w/ NUT.

MODIFIED A/C HOSE KIT

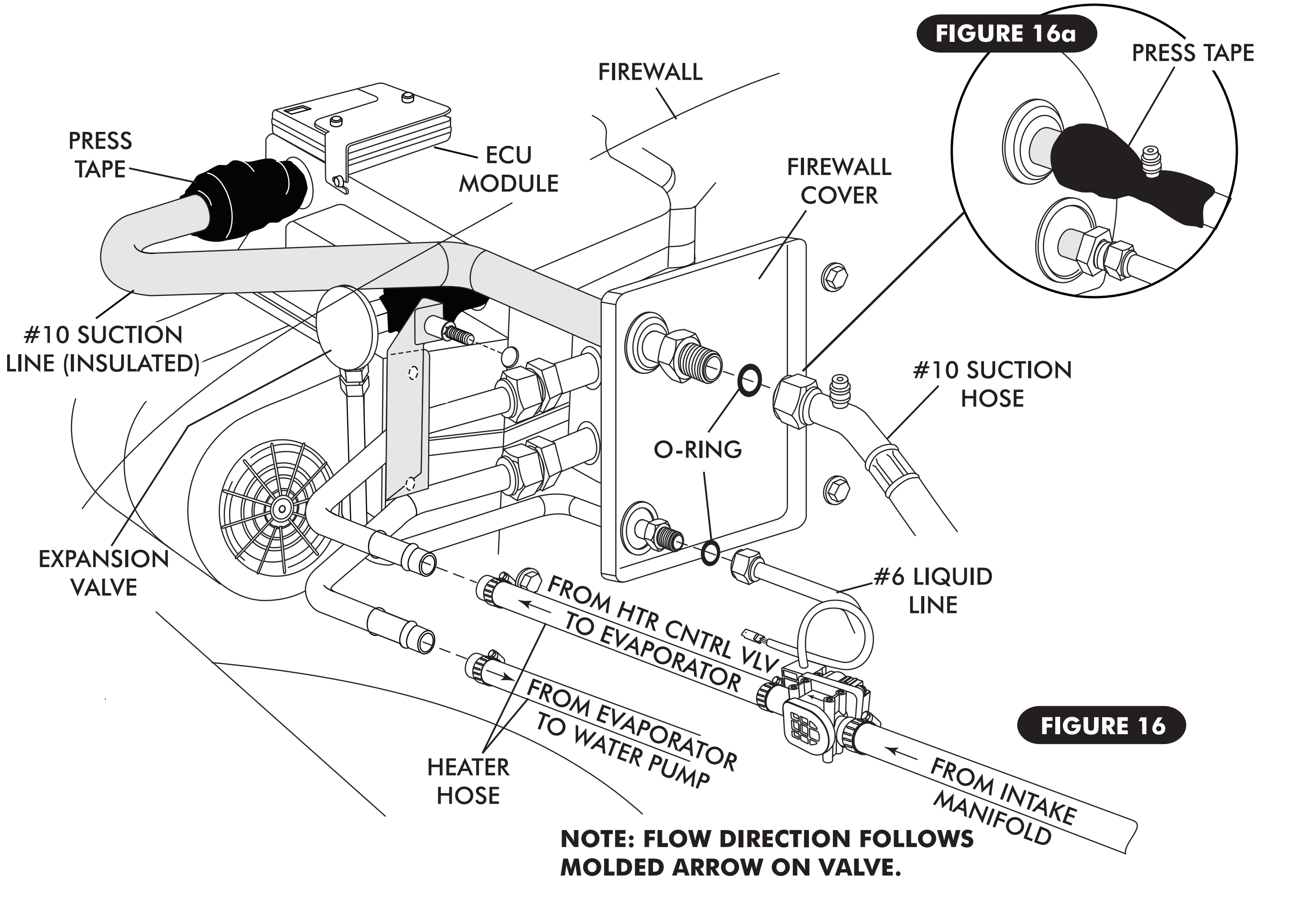
☐ REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH MODIFIED HOSE KIT.

HEATER HOSE & HEATER CONTROL VALVE INSTALLATION

NOTE: VINTAGE AIR SYSTEMS REQUIRE (2) 5/8" HOSE NIPPLES (NOT SUPPLIED): ONE FOR THE INTAKE (PRESSURE) AND ONE FOR THE WATER PUMP (SUCTION). IF REQUIRED, REMOVE EXISTING HOSE NIPPLE OR NIPPLES AND INSTALL NEW 5/8" HOSE NIPPLES IN INTAKE AND WATER PUMP.

- ☐ ROUTE A PIECE OF HEATER HOSE FROM THE WATER PUMP TO THE HEATER LINE COMING THROUGH THE FIREWALL AS SHOWN IN FIGURE 16, BELOW. SECURE USING HOSE CLAMPS.

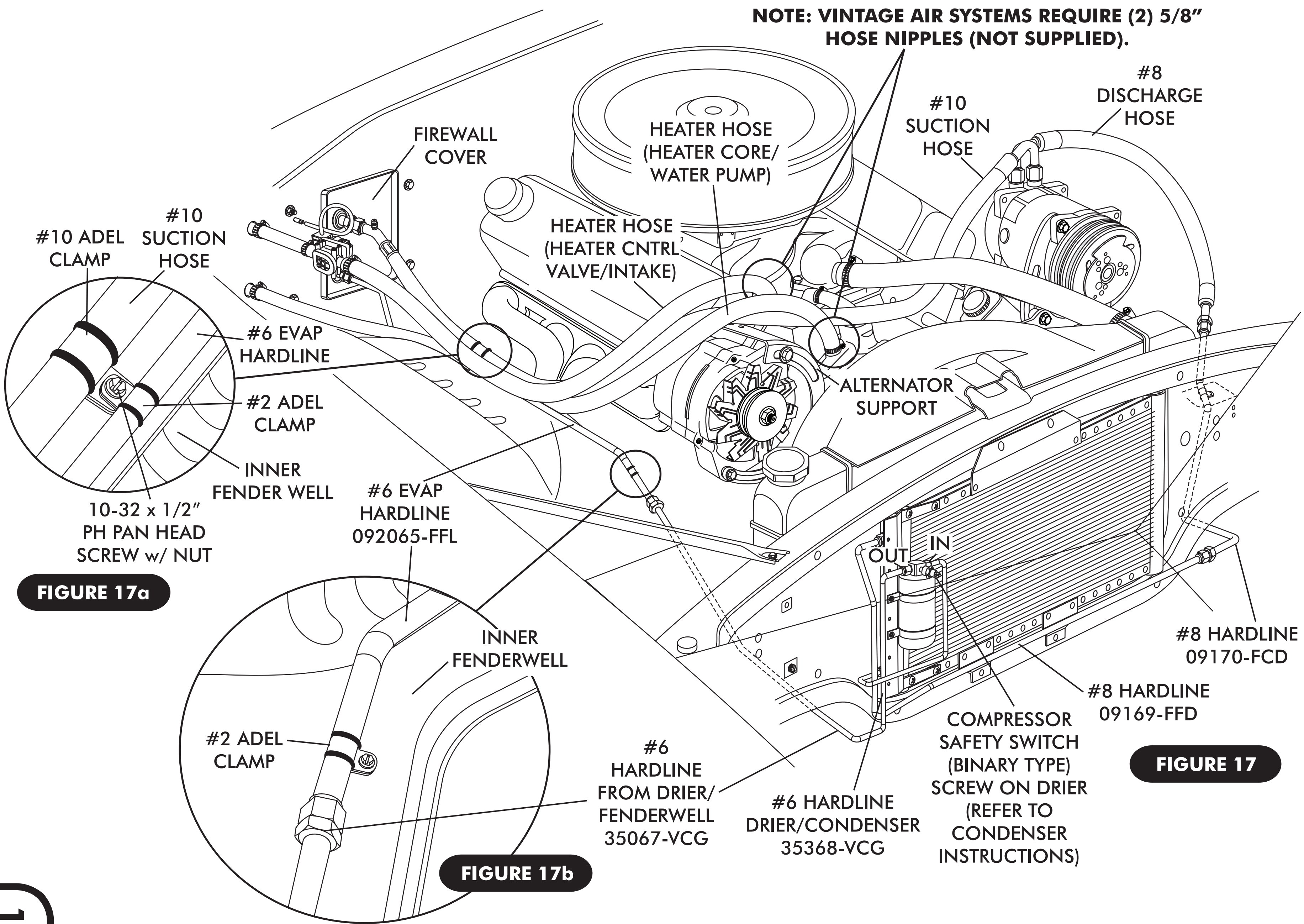
- ☐ ROUTE A PIECE OF HEATER HOSE FROM THE INTAKE TO THE HEATER LINE COMING THROUGH THE FIREWALL AS SHOWN IN FIGURE 16, BELOW. **NOTE: INSTALL HEATER CONTROL VALVE IN LINE WITH INTAKE MANIFOLD (PRESSURE SIDE) HEATER HOSE. SECURE USING HOSE CLAMPS AS SHOWN IN FIGURE 16, BELOW. NOTE PROPER FLOW DIRECTION.** SECURE THE #10 SUCTION HOSE AND THE #6 EVAP HARDLINE TO THE INNER FENDER USING A #4 & #2 ADEL CLAMP. SECURE CLAMPS USING A 10-32 x 1/2" PH PAN HEAD SCREW w/ NUT. SEE FIGURE 17a, PAGE 16.



NOTE: FLOW DIRECTION FOLLOWS MOLDED ARROW ON VALVE.

A/C & HEATER HOSE ROUTING

NOTE: VINTAGE AIR SYSTEMS REQUIRE (2) 5/8" HOSE NIPPLES (NOT SUPPLIED).



FINAL STEPS

- ☐ INSTALL DUCT HOSES AS SHOWN IN FIGURE 20, PAGE 18.
- ☐ ROUTE A/C WIRES THROUGH 3/8" GROMMET AS SHOWN IN FIGURE 18a (12 VOLT/GROUND/BINARY SWITCH/HEATER VALVE).
- ☐ INSTALL CONTROL PANEL ASSEMBLY.
- ☐ PLUG THE WIRING HARNESS INTO THE ECU MODULE ON SUB CASE AS SHOWN IN FIGURE 20, PAGE 18 (WIRE ACCORDING TO WIRING DIAGRAM ON PAGE 20).
- ☐ GLOVE BOX INSTALLATION (SEE FIGURE 18).
- ☐ REINSTALL ALL PREVIOUSLY REMOVED ITEMS (BATTERY TRAY & BATTERY).
- ☐ FILL RADIATOR WITH AT LEAST A 50/50 MIXTURE OF APPROVED ANTIFREEZE AND DISTILLED WATER. IT IS THE OWNER'S RESPONSIBILITY TO KEEP THE FREEZE PROTECTION AT THE PROPER LEVEL FOR THE CLIMATE IN WHICH THE VEHICLE IS OPERATED. FAILURE TO FOLLOW ANTIFREEZE RECOMMENDATIONS WILL CAUSE HEATER CORE TO CORRODE PREMATURELY AND POSSIBLY BURST IN A/C MODE AND/OR FREEZING WEATHER, VOIDING YOUR WARRANTY.
- ☐ DOUBLE CHECK ALL FITTINGS, BRACKETS AND BELTS FOR TIGHTNESS.
- ☐ VINTAGE AIR RECOMMENDS THAT ALL A/C SYSTEMS BE SERVICED BY A CERTIFIED AUTOMOTIVE AIR CONDITIONING TECHNICIAN.
- ☐ EVACUATE THE SYSTEM FOR A MINIMUM OF 45 MINUTES PRIOR TO CHARGING, AND LEAK CHECK PRIOR TO SERVICING.
- ☐ CHARGE THE SYSTEM TO THE CAPACITIES STATED ON THE INFORMATION PAGE (PAGE 4) OF THIS INSTRUCTION MANUAL.

GLOVE BOX INSTALLATION

- ☐ INSTALL GLOVE BOX PROVIDED, SECURE WITH #8 x 1/2" SCREWS THROUGH OEM HOLES. SEE FIGURE 18.
- ☐ INSTALL GLOVE BOX DOOR.

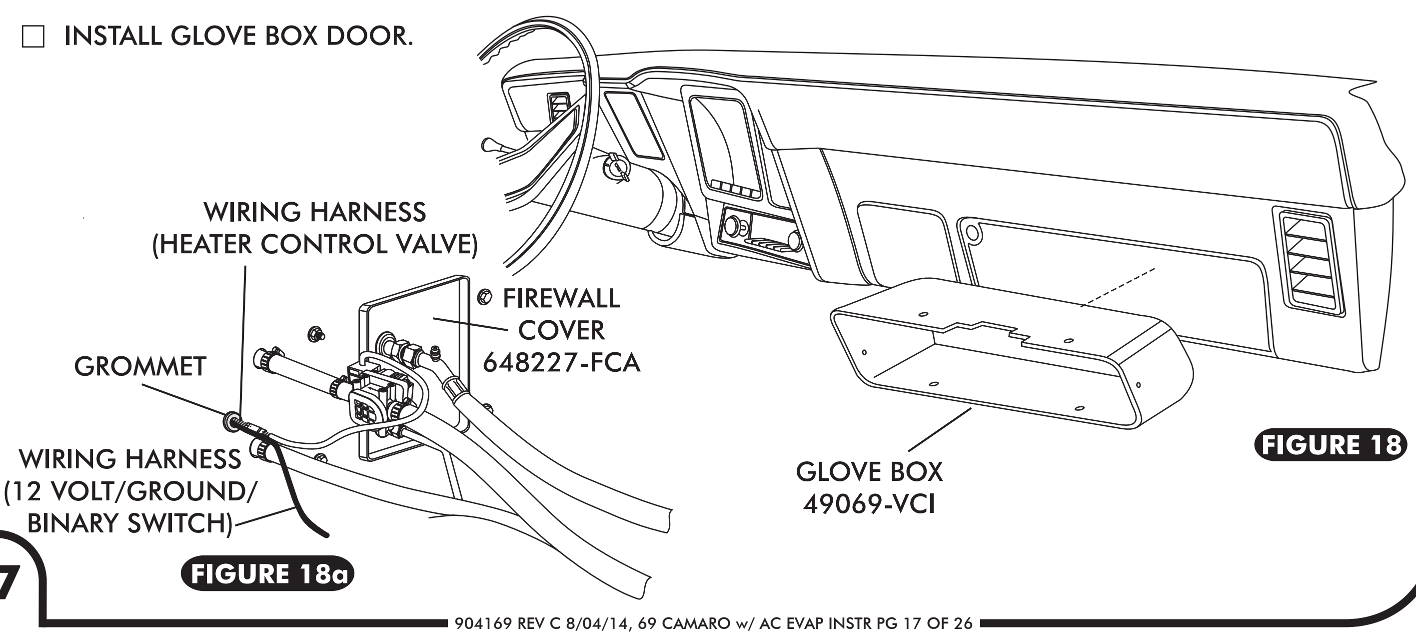


FIGURE 18

FIGURE 18a

CONTROL PANEL & DUCT HOSE ROUTING

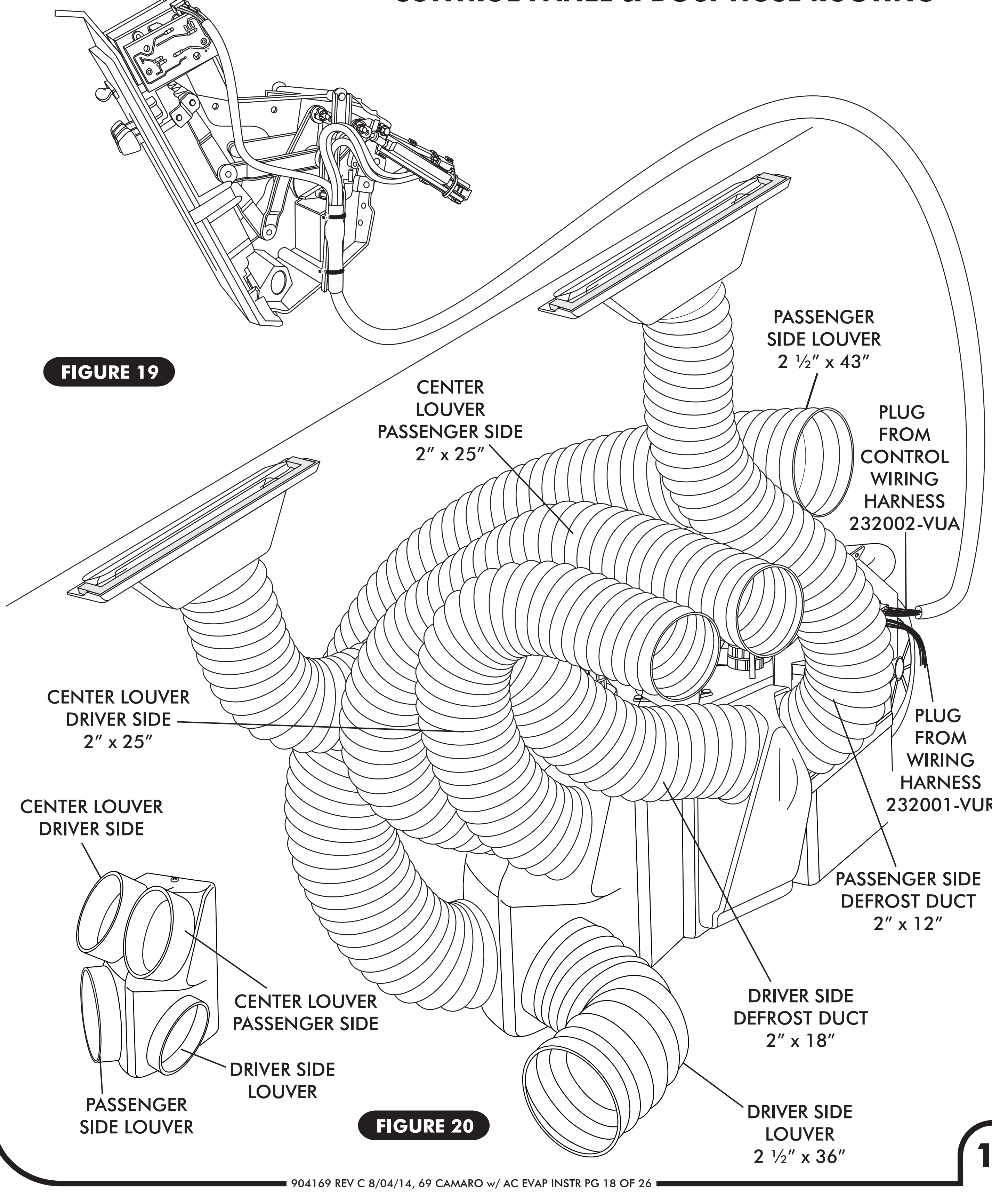


FIGURE 19

FIGURE 20

EVAPORATOR HARDLINE INSTALLATION

NOTE: AFTER INSTALLING #10 SUCTION LINE, WRAP ALL EXPOSED METAL (FITTINGS & TUBE) WITH SUPPLIED PRESS TAPE.

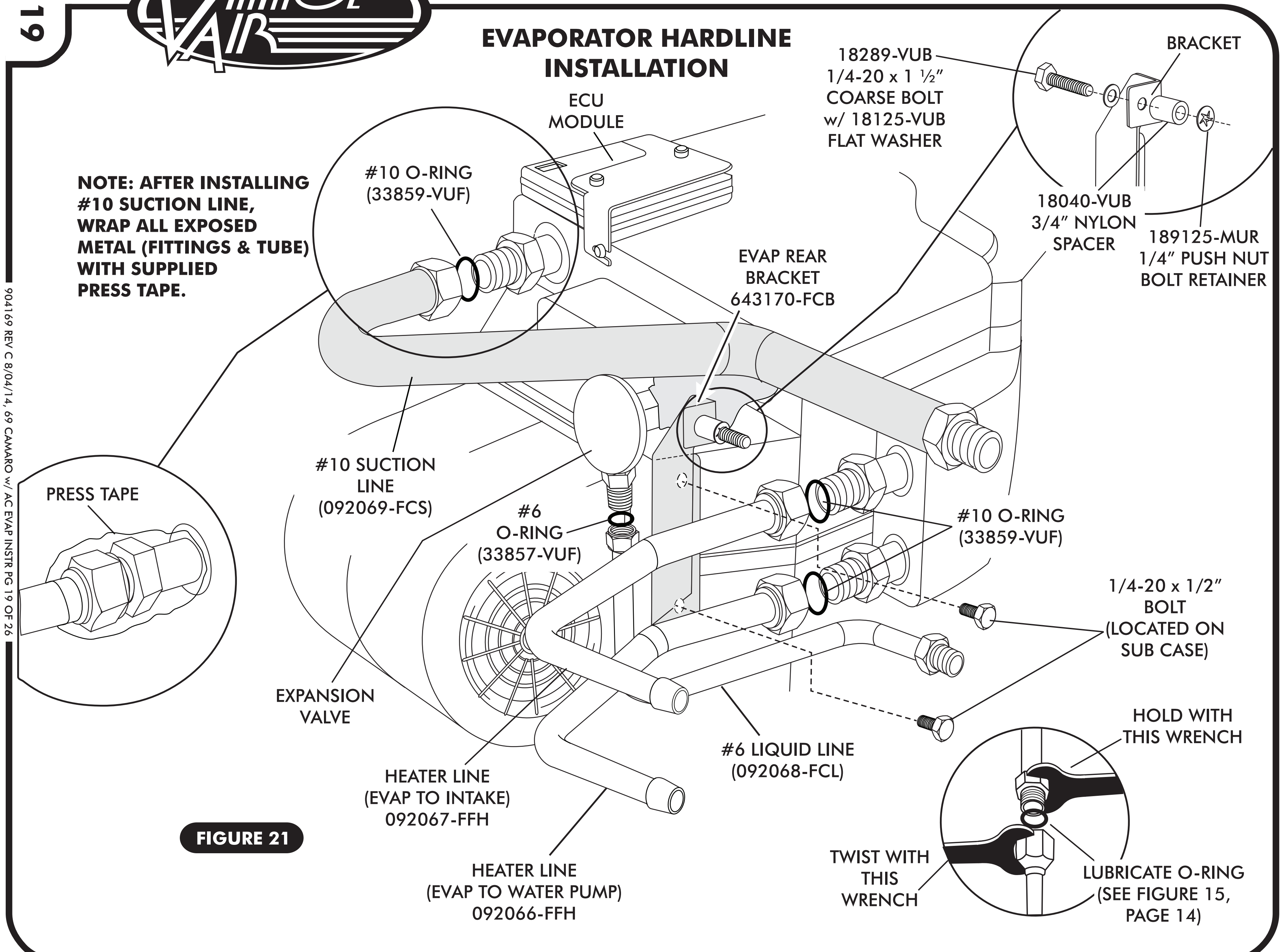
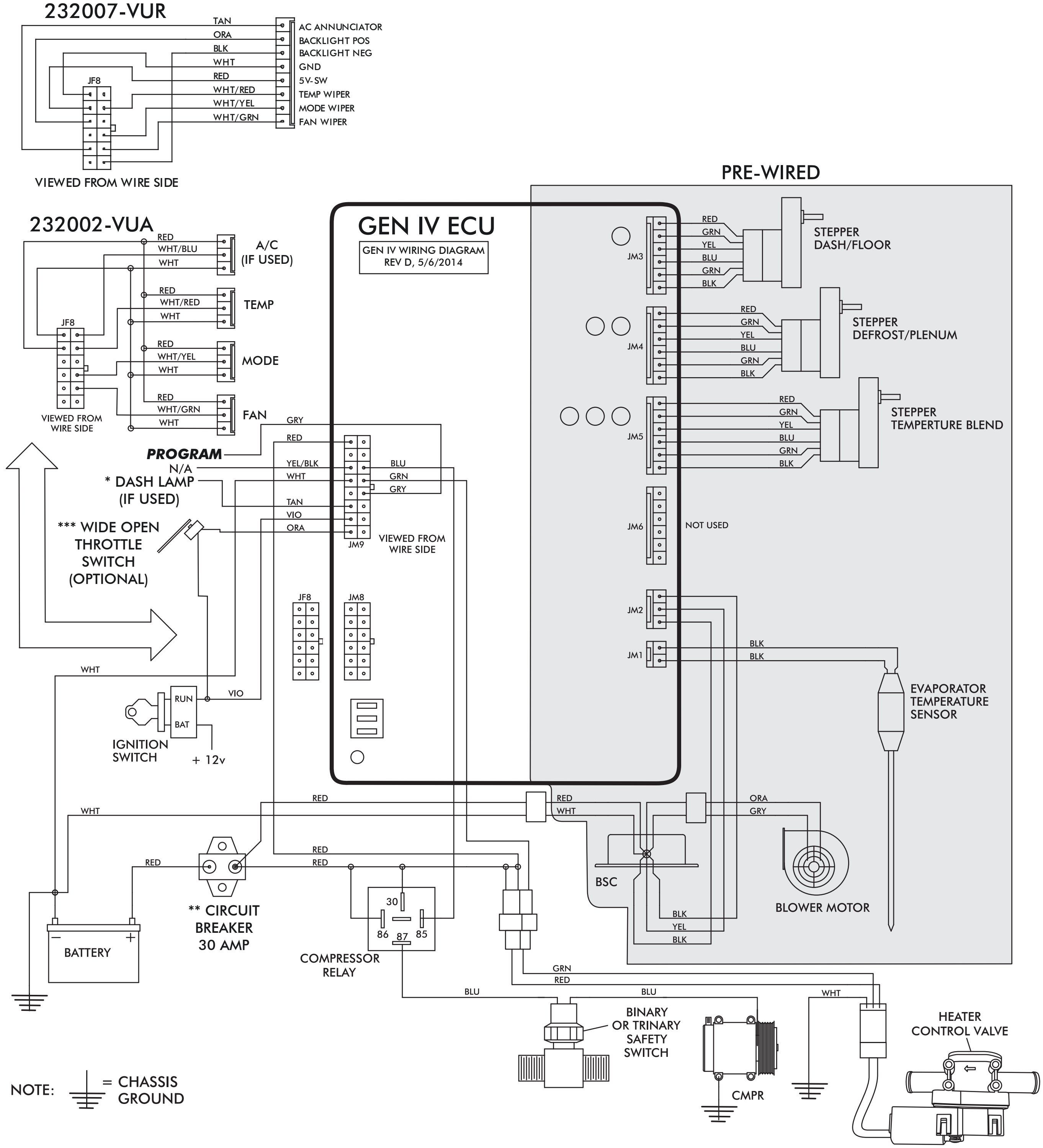


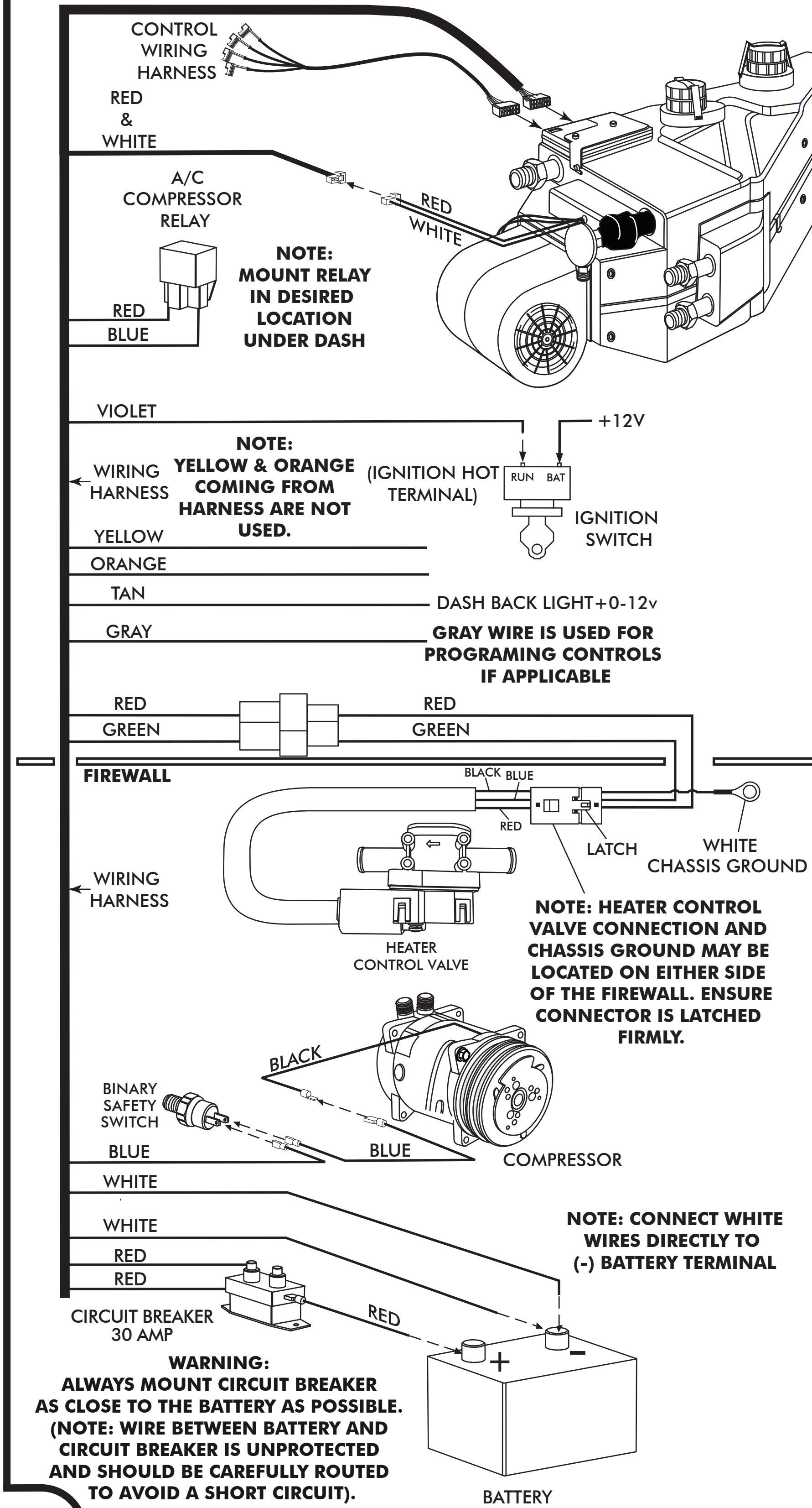
FIGURE 21

Wiring Diagram



- **Dash Lamp Is Used Only With Type 232007-VUR Harness.**
- **Warning: Always Mount Circuit Breaker As Close to the Battery As Possible. (NOTE: Wire Between Battery and Circuit Breaker Is Unprotected and Should Be Carefully Routed to Avoid a Short Circuit).**
- **Wide Open Throttle Switch Contacts Close Only at Full Throttle, Which Disables A/C Compressor.**

Gen IV Wiring Connection Instruction



Ignition Switch:

Violet 12V Ign Switch Source (Key On Accessory) Position Must Be Switched.

Dash Light:

Tan Wire Used Only With Vintage Air Supplied Control Panel With LED Back Light.

Heater Control Valve:

Install With Servo Motor Facing Down, As Shown. Note Flow Direction Arrow Molded Into Valve Body, And Install Accordingly.

Binary/Trinary & Compressor:

Binary: Connect As Shown (Typical Compressor Wiring). Be Sure Compressor Body Is Grounded.

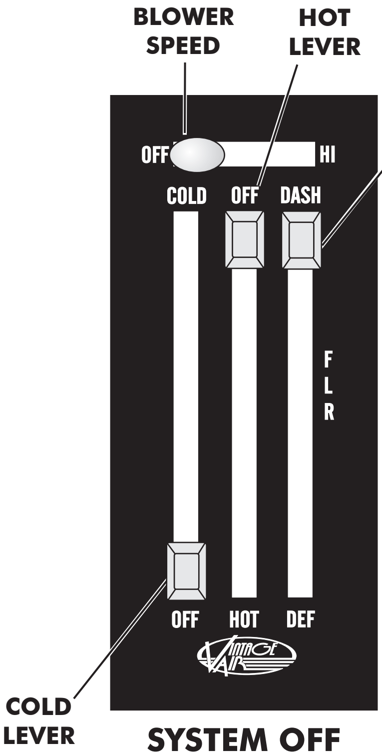
Trinary Switch: Connect According To Trinary Switch Wiring Diagram.

Circuit Breaker/Battery:

White **Must** Run To (-) Battery. Red May Run To (+) Battery Or Starter. Mount Circuit Breaker As Close to Battery As Possible.

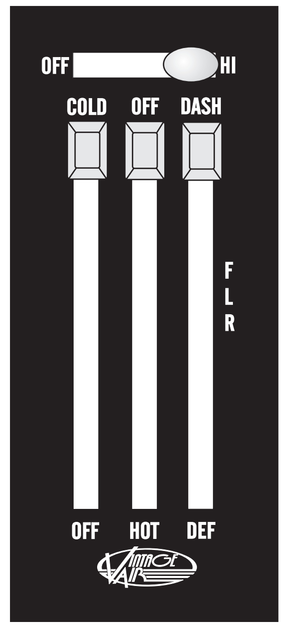
OPERATION OF CONTROLS

NOTE: WHEN BATTERY POWER IS FIRST CONNECTED TO THE ECU, THE COMPUTER GOES THROUGH AS INITIALIZATION SEQUENCE. THIS INITIALIZATION MAY TAKE UP TO 30 SECONDS. DURING INITIALIAZTION THE BLOWER WILL NOT OPERATE, BUT THE DOORS INSIDE THE UNIT WILL BE OPERATING. A LOW BATTERY OR DISCONNECTING THE BATTERY MAY ALSO TRIGGER A RE-INITIALIZATION. DURING START UP, A LOW BATTERY MAY DROP BELOW 7 VOLTS, TRIGGERING RE-INITIALIZATION.



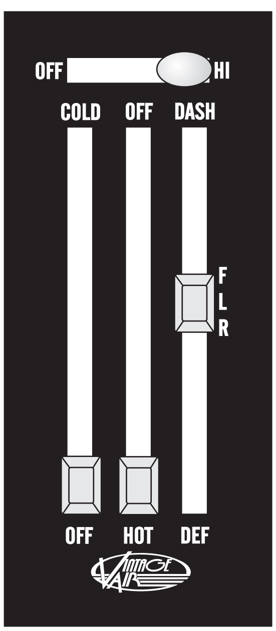
SYSTEM OFF

BLOWER SPEED
THIS LEVER CONTROLS THE BLOWER SPEED, FROM OFF TO HI
COLD LEVER
IN A/C MODE SLIDE THE COLD LEVER ALL THE WAY UP TO THE COLD POSITION, FOR MAXIMUM COOLING (SLIDE LEVER UP OR DOWN TO ADJUST DESIRED TEMPERATURE)
HOT LEVER
IN HEAT MODE SLIDE THE HOT LEVER ALL THE WAY DOWN TO THE HOT POSITION, FOR MAXIMUM HEATING (SLIDE LEVER UP OR DOWN TO ADJUST DESIRED TEMPERATURE)
MODE LEVER
SLIDE THE LEVER TO THE “DASH” POSITION



A/C MODE

BLOWER SPEED
SLIDE LEVER TO THE RIGHT TO DESIRED BLOWER SPEED, FROM OFF TO HI
COLD LEVER
IN A/C MODE SLIDE THE COLD LEVER ALL THE WAY UP TO THE COLD POSITION, TO ENGAGE COMPRESSOR FOR MAXIMUM COOLING (SLIDE LEVER UP OR DOWN TO ADJUST DESIRED TEMPERATURE)
HOT LEVER
IN A/C MODE SLIDE THE HOT LEVER ALL THE WAY UP TO THE OFF POSITION
MODE LEVER
SLIDE THE LEVER TO THE “DASH” POSITION



HEAT MODE

BLOWER SPEED
SLIDE LEVER TO THE RIGHT TO DESIRED BLOWER SPEED, FROM OFF TO HI
COLD LEVER
IN HEAT MODE SLIDE THE COLD LEVER ALL THE WAY DOWN TO THE OFF POSITION
HOT LEVER
IN HEAT MODE SLIDE THE HOT LEVER ALL THE WAY DOWN TO THE HOT POSITION, FOR MAXIMUM HEATING (SLIDE LEVER UP OR DOWN TO ADJUST DESIRED TEMPERATURE)
MODE LEVER
SLIDE THE LEVER TO THE “FLR” POSITION



DEFROST/DE-FOG MODE

BLOWER SPEED
SLIDE LEVER TO THE RIGHT TO DESIRED BLOWER SPEED, FROM OFF TO HI
COLD LEVER
IN DEFROST MODE SLIDE THE COLD LEVER ALL THE WAY UP TO THE COLD POSITION, TO ENGAGE COMPRESSOR FOR MAXIMUM COOLING (SLIDE LEVER UP OR DOWN TO ADJUST DESIRED TEMPERATURE)
HOT LEVER
IN DEFROST MODE SLIDE THE HOT LEVER ALL THE WAY DOWN TO THE HOT POSITION, FOR MAXIMUM HEATING (SLIDE LEVER UP OR DOWN TO ADJUST DESIRED TEMPERATURE)
MODE LEVER
SLIDE THE LEVER TO THE “DEF” POSITION

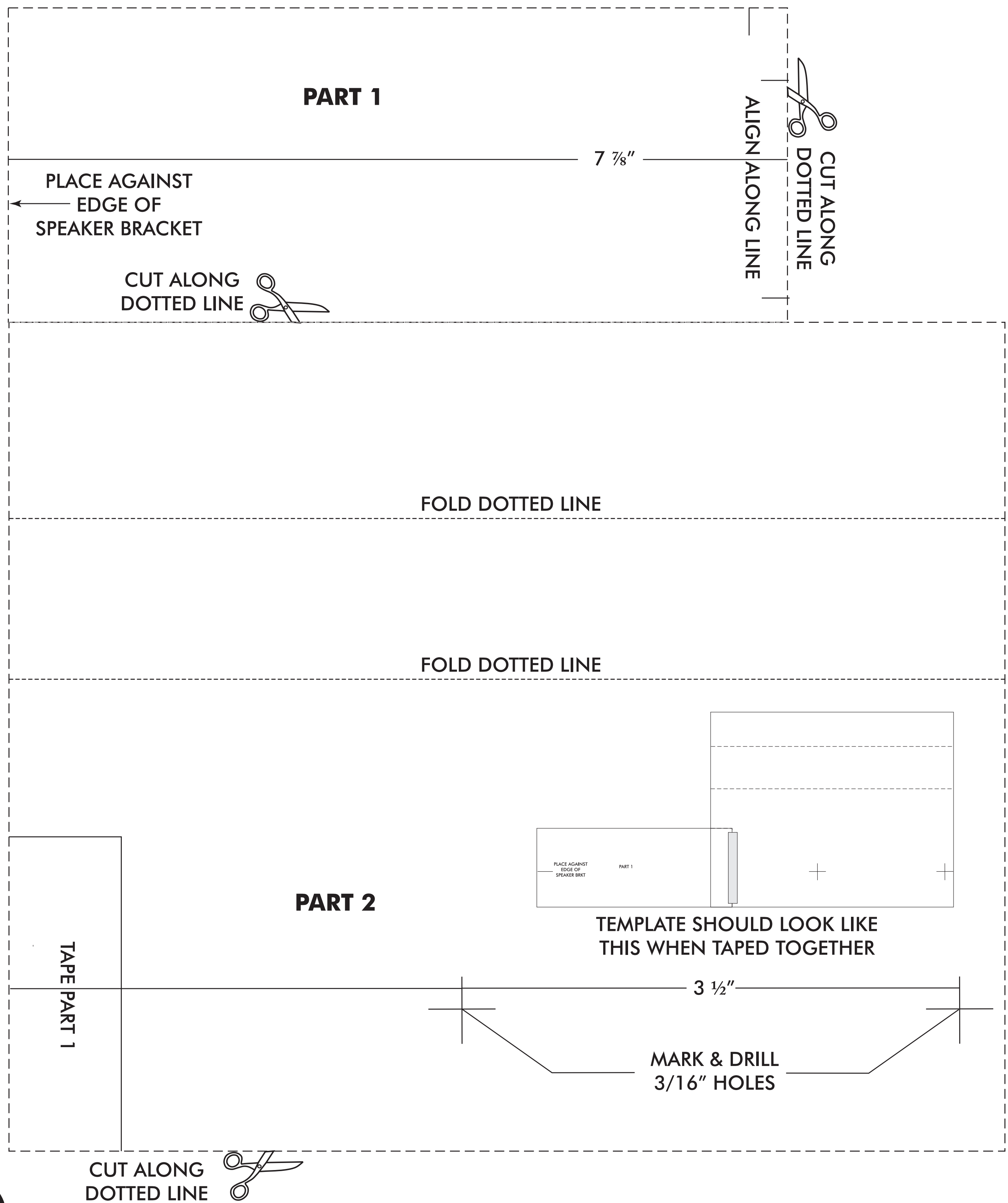
Troubleshooting Guide

Symptom	Condition	Checks	Actions	Notes
1a. Blower stays on high speed when ignition is on.	No other functions work.	Check for damaged pins or wires in control head plug.	Verify that all pins are inserted into plug. Ensure that no pins are bent or damaged in ECU.	
		Check for damaged ground wire (white) in control head harness.	Verify continuity to chassis ground with white control head wire at various points.	Loss of ground on this wire renders control head inoperable.
	All other functions work.	Check for damaged blower switch or potentiometer and associated wiring.		See blower switch check procedure.
1b. Blower stays on high speed when ignition is on or off.		Unplug 3-wire BSC control connector from ECU. If blower shuts off, ECU is either improperly wired or damaged.	Be sure the small, 20 GA white ground wire is connected to the battery ground post. If it is, replace the ECU.	
		Unplug 3-wire BSC control connector from ECU. If blower stays running, BSC is either improperly wired or damaged.	Check to ensure that no BSC wiring is damaged or shorted to vehicle ground. The BSC operates the blower by ground side pulse width modulation switching. The positive wire to the blower will always be hot. If the "ground" side of the blower is shorted to chassis ground, the blower will run on HI.	
			Replace BSC (This will require removal of evaporator from vehicle).	No other part replacements should be necessary.
2. Compressor will not turn on (All other functions work).	System is not charged.	System must be charged for compressor to engage.	Charge system or bypass pressure switch.	**Danger: Never bypass safety switch with engine running. Serious injury can result.**
	System is charged.	Check for faulty A/C potentiometer or associated wiring (Not applicable to 3-pot controls).	Check continuity to ground on white control head wire. Check for 5V on red control head wire.	To check for proper pot function, check voltage at white/blue wire. Voltage should be between 0V and 5V, and will vary with pot lever position.
		Check for disconnected or faulty thermistor.	Check 2-pin connector at ECU housing.	Disconnected or faulty thermistor will cause compressor to be disabled.
3. Compressor will not turn off (All other functions work).		Check for faulty A/C potentiometer or associated wiring.	Repair or replace pot/control wiring.	Red wire at A/C pot should have approximately 5V with ignition on. White wire will have continuity to chassis ground. White/Blue wire should vary between 0V and 5V when lever is moved up or down.
		Check for faulty A/C relay.	Replace relay.	

Troubleshooting Guide (Cont.)

Symptom	Condition	Checks	Actions	Notes
4. System will not turn on, or runs intermittently.	Works when engine is not running; shuts off when engine is started (Typically early Gen IV, but possible on all versions).	Noise interference from either ignition or alternator.	Install capacitors on ignition coil and alternator. Ensure good ground at all points. Relocate coil and associated wiring away from ECU and ECU wiring. Check for burned or loose plug wires.	Ignition noise (radiated or conducted) will cause the system to shut down due to high voltage spikes. If this is suspected, check with a quality oscilloscope. Spikes greater than 16V will shut down the ECU. Install a radio capacitor at the positive post of the ignition coil (See radio capacitor installation bulletin). A faulty alternator or worn out battery can also result in this condition.
	Will not turn on under any conditions.	Verify connections on power lead, ignition lead, and both white ground wires.	Check for positive power at heater valve green wire and blower red wire. Check for ground on control head white wire.	
		Verify battery voltage is greater than 10 volts and less than 16.	Verify proper meter function by checking the condition of a known good battery.	
5. Loss of mode door function.	No mode change at all.	Check for damaged mode switch or potentiometer and associated wiring.		
	Partial function of mode doors.	Check for obstructed or binding mode doors.		Typically caused by evaporator housing installed in a bind in the vehicle. Be sure all mounting locations line up and don't have to be forced into position.
		Check for damaged stepper motor or wiring.		
6. Blower turns on and off rapidly.	Battery voltage is at least 12V.	Check for at least 12V at circuit breaker.	Ensure all system grounds and power connections are clean and tight.	
	Battery voltage is less than 12V.	Check for faulty battery or alternator.	Charge battery.	System shuts off blower at 10V. Poor connections or weak battery can cause shutdown at up to 11V.
7. Erratic functions of blower, mode, temp, etc.		Check for damaged switch or pot and associated wiring.	Repair or replace.	
8. When ignition is turned on, blower momentarily comes on, then shuts off. This occurs with the blower switch in the OFF position.		This is an indicator that the system has been reset. Be sure the red power wire is on the battery post, and not on a switched source. Also, if the system is pulled below 7V for even a split second, the system will reset.	Run red power wire directly to battery.	

EVAPORATOR BRACKET TEMPLATE



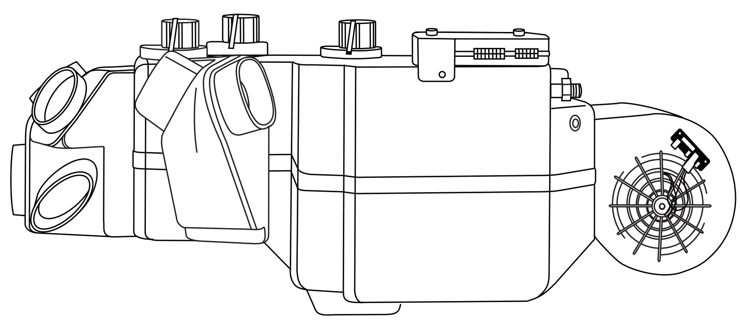
EVAPORATOR KIT
564169

EVAPORATOR KIT PACKING LIST

No.	QTY.	PART No.	DESCRIPTION	
1.	1	764169	1969 CAMARO with A/C GEN IV EVAP. SUB CASE	______
2.	1	784169	1969 CAMARO with A/C GEN IV ACCESSORY KIT	______

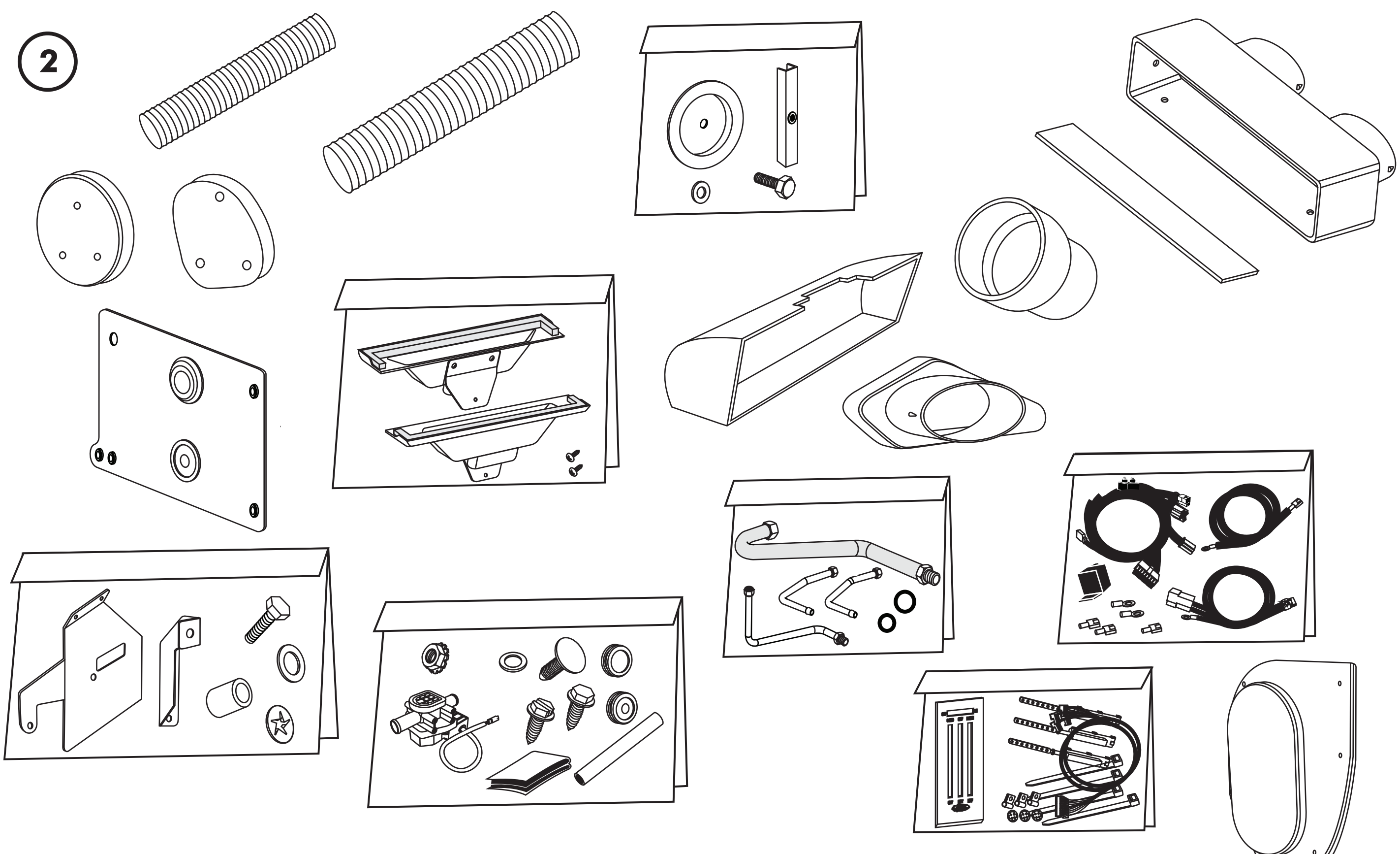
CHECKED BY: ____________
PACKED BY: ____________
DATE: ____________

1



1969 CAMARO with A/C
GEN IV EVAP. SUB CASE
764169

2



ACCESSORY KIT
784169

NOTE: IMAGES MAY NOT DEPICT ACTUAL PARTS AND QUANTITIES.
REFER TO PACKING LIST FOR ACTUAL PARTS AND QUANTITIES.